

Forensic Child Psychology



**Working in the
Courts and Clinic**

Matthew Fanetti

William T. O'Donohue

Rachel N. Happel

Kresta N. Daly

WILEY

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Preface

The field of forensic psychology has grown slowly over the past century. From the early debates by Hugo Munsterberg and Sigmund Freud that psychology should play a larger role in the legal system, to the use of psychology in advocating the elimination of segregation in schools in the U.S. Supreme Court case *Brown v. Board of Education*, psychology has struggled to help legal decision makers be better informed. The past five decades have seen an exponential growth in the use of scientific research to answer important questions in forensics, from matters such as bystander inaction to the strengths and frailties of the memories of eyewitnesses. In the 1990s, psychology responded to a rash of well-publicized day-care child sexual abuse scandals, with a push for scientific understanding of children's allegations of sexual abuse. In just 25 years, the applied field of child sexual abuse assessment has come from an ad hoc and unstandardized approach to assessment, characterized by wild disagreements and untrained assessors, to a (mostly) highly controlled approach, which is informed by research with an aim to understand and reduce error. In our estimation, this is a very desirable outcome of mere decades. Psychology can work with the applied community and it can help to work toward better responses to real problems. Ultimately, this was the position of Munsterberg and Freud, though the field at the time was not ready to provide the necessary support.

College instructors today have an interesting problem: finding a text that supports the goals of their classes in forensic psychology. Unlike courses such as the typical general Introduction to Psychology experience (for which available texts are plentiful and varied), undergraduate texts in forensic psychology are rare. Even worse, those with a focus on child issues are even more rare. Compound this with the fact that most available texts are written for students with strong backgrounds in psychology (or graduate students and professors in psychology) and what does an instructor do for a forensic psychology course filled with sophomores in social work, criminology, nursing, premed, and so on? These students need to understand some basic principles, because these principles affect an everyday working environment. However, many students do not have sufficient background in psychology to use an advanced forensic psychology text. Furthermore, they have little need of many of the specific topics discussed in those texts.

The overarching goal of this text is to provide an accessible and basic examination of psychology and law pertaining to children so that students who will enter into the workforce with need of this kind of information will be better prepared. We have focused on writing style and ease of use. Rather than a text that explores every permutation of every relevant concept, we focus on a clear and well-explained iteration of basic ideas. The goal is clarity and understanding, not comprehensive depth.

The first focus of the text is a basic review of some concepts in psychology that may be important to those who actually work in forensic environments, including (1) why psychology is a science and why that is important, (2) relevant social and learning psychology, (3) relevant psychopathology, and (4) basic concepts in memory as applied to forensics.

The second focus of the text is an examination of specific topics and concepts related to child forensics, including (1) an overview of child abuse and exploitation, (2) child abuse in the modern technological world, (3) pedophilia and child molestation, (4) assessment of child sexual abuse, and (5) treatment of children who have been abused.

The third and final focus of this text is to provide a basic understanding of the legal world related to child forensics, including (1) basic concepts in law, (2) mandated reporting, (3) juvenile justice systems, and (4) the role of psychological expert witnesses in child abuse cases.

Ultimately, we hope that the text provides a sound framework for building new courses that are specifically designed for those who will be working directly with children. We are hoping to have built an accessible entry point into the field for some and an understandable set of working principles for others.

We welcome feedback about how to revise this text to help serve the needs of instructors and working professionals. We would also welcome inquiries from instructors hoping to create courses in forensic child psychology. The process may be easier than you think, and finding community resources to assist in the endeavor is often a productive way to engage a department in the public affairs of its own community. Our team has been able to enlist the support of (and directly include) powerful community agencies that can rally around a common goal: to make our professionals more effective and thus strengthen the fight against child abuse.

For correspondence:

Matthew Fanetti, PhD

Professor

Coordinator of Child Forensic Psychology Certification

Department of Psychology

Missouri State University

Springfield, MO 65897

mfanetti@missouristate.edu



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Finally, we also wish to acknowledge the Sacramento Children's Receiving Home for the care and compassion they provide in helping victims of abuse and neglect.

PART

I



Basic Principles

CHAPTER

1



Introduction to Forensic Psychology

GOALS OF THIS CHAPTER:

1. To understand the basic definitions, development, and role of psychology as a *science*.
2. To explore the important social events that caused the focus on forensics in psychology.
3. To understand the broad range of activities a forensic psychologist might engage.

Within the past few decades the label *forensic psychology* has become more common than it might have been prior to the 1980s. Within the past decade, more researchers and practicing professionals may be using the more specific label *forensic child psychology*. A quick review of articles listed in *PsycInfo* revealed that articles containing the keywords “forensic psychology” increased from 156 during the 1960s to 8,117 during the 2000s. A similar review using the keywords “Child” (and) “Forensic Psychology” increased from 9 during the 1960s to 1,395 during the 2000s. But what exactly are these fields of study and practice? The most direct definition of **forensic psychology** is: the study of human behavior in legal settings or relevant legal environments. The most direct definition of **forensic child psychology** is: the study of the behavior of children in legal settings or relevant legal environments. However, there are many nuances to these studies.

Most people have probably heard these terms from their growing utilization in the entertainment media. From these experiences, many people may come to believe that forensic psychology is dedicated to understanding the causes of criminal behavior—and they would not be wrong. However, the field is much broader than this very narrow sliver of interest.

Even the word *forensic* has different implications in various fields. For example, in 1997 this author (Fanetti) was visiting with a law enforcement division that specialized

in sex crimes against children. Upon meeting and exchanging introductions, one of the detectives presented a quizzical facial expression when he heard the specialty. After learning what we actually researched, he smiled and said he had thought that “forensic child psychology” meant that we tried to study the behavior of *dead* children. For them, forensics meant *post-mortem*.

Many of the students who use this text may not actually be psychology students. The goal of the text has always been to reach every frontline professional who interacts with children on a daily basis. This includes teachers, counselors, social workers, nurses, law enforcement officers, juvenile officers, direct therapists, court personnel, to name just a few. It is these people who become the first line of intervention when children become part of the legal (i.e., forensic) system. These children may be the victims of crime, witnesses to it, or even the perpetrators of the crime. In these scenarios, the way that professionals interact with children can make the difference between cases that are resolved well and justly, and those in which justice becomes confused or difficult to obtain. For example, when witnesses testify that they saw a specific person at a crime scene, but later details reveal that they were not sure until the person was pointed out by law enforcement, there is a legitimate question to be raised about the accuracy of that identification. Clear and focused understanding of basic psychological principles related to forensic cases (e.g., in this case, memory research) can help professionals to be effective in preventing crimes against children, helping child victims, and creating environments in which children are less likely to become involved in crime.

The remainder of this chapter explores the principles and goals of psychology, the development of forensic psychology as a specific field of inquiry, the many duties of forensic psychologists, the training available to become a forensic psychologist, and some recent examples of cases where forensic child psychology became an important influence.

WHAT IS PSYCHOLOGY—REALLY?

According to the American Psychological Association (APA, 2012), *psychology* is a “profession of scientific research designed to establish basic principles and theories of human behavior, and the subsequent application of those principles and theories to help individuals, organizations and communities.” In this sense, psychology is concerned both with the careful and controlled scientific examination of behavior *and* with the use of this knowledge in a variety of applied, beneficial ways.

Modern psychology is a science originating from the same early roots as other sciences, such as physics, mathematics, biology, chemistry, and medicine. Those common roots can be found in the writing of ancient Greek, Persian, Chinese, and Egyptian philosophers. In fact, the evolution of thought from these early roots follows an understandable route. Each science has gradually moved from rational and thought-based

explanations for common problems, to more empirical and observation-based answers, and finally to specific methods designed to reduce or remove biases and errors from those systems. This more recent experimental/empirical orientation is considered superior because it requires that ideas (hypotheses) are actually tested against reality (data) to see if the initial ideas are correct. In this way, science is thought to have an error-identifying and error-correcting function (O'Donohue, 2013). All modern sciences can trace their lineages back to the same ancestors. It has only been within the past few centuries that the amount of accumulating knowledge has grown to the point that scientists have found benefit in specializing in one area or another and focusing their attentions on one field of study.

Epistemology

How do you know that something is true? Do you have a preferred way to answer this question or that? If you read about a murder trial in the newspaper or on the web or on television, how is it that you come to your own conclusions about whether the accused is guilty or innocent? We are all tempted to do it. Do you use logic to think through the most probable set of events? Do you rely—only—on such direct evidence as DNA, video, or fingerprints? What if the evidence is eyewitness testimony? Are you willing to rely on the accuracy, honesty, and certainty of others who say they saw a crime? We can use any and all of these methods to come to our own conclusions about the nature of the truth.

Epistemology is the study of *how* we know, or which methods we rely on to come to conclusions about the nature of the world—or the truth of a criminal case. There are many differing *epistemes* (i.e., ways of knowing), but a few are particularly important to the history of the development of the science of psychology. These are rationalism, authority, empiricism, and experimentalism.

Rationalism is the idea that we can gain knowledge from nothing more than thought-based exploration of concepts. Essentially, our sensory observations are thought to be flawed and difficult to interpret within the biases of our environments. Certainly we can at least agree that some concepts we accept every day are not actually observable. Each of us knows that lines, planes, and points exist—but what are they really. By definition, a plane must have two dimensions: two. This means it has *no* depth at all. How can we *observe* something that has *no depth*? What about a line? It is essentially one-dimensional. A point is zero-dimensional. Zero-dimensional? These are concepts that we can represent on paper (e.g., a pencil dot on a piece of paper is a three-dimensional illustration of a zero-dimensional object), but just a little thought makes it clear that they do not exist in *observable* reality. They are truths, but *rational* truths only. The quintessential rationalist, *Socrates*, believed that all knowledge can be derived by simple exploration of our mental faculties and ability to reason. We need not see the truth of nature, because we can reason it out in the absence of observation. Even so, rational explanations (i.e., those that

rely on logic) still have a place in modern psychology. Forensic experts still must present their findings to the court in ways that seem to make sense, and are not illogical. Rational explanations have not been replaced, they have been supplemented.

Empiricism is the idea that we can gain knowledge from simple observation. Empiricists, such as *Aristotle*, believed that we are born with a blank slate (i.e., *tabula rasa*) on which our observable sensory experiences will write the truths of the world as we see them. Certainly, we can agree that each of us probably learned about ice and snow from our interactions with them. People may tell you what it means to be cold, but you will not understand the truth of it until you *feel* it. Can you think of a way to rationally explain the experience of being cold to someone who has never felt it? At a concert in Reno (1998), the musical performer *Yanni*, who was from warm southern Greece, once explained to the audience about his education in “cold.” On moving to the United States, his first sensory experience was in Minnesota, in the winter. To him, the realization of what cold meant was shocking, though he had heard and thought about it many times. Simple empirical arguments still play a role in modern forensic settings. For example, many attorneys use reenactments as a way for jurors to feel as though they have experienced a plausible explanation. Seeing an explanation acted out and hearing the attorney’s representation remains very important.

The constant companion to both empiricism and rationalism has always been authority. *Authority*, as an *episteme*, is the idea that we gain our own truths about the world from sources or people thought to have the knowledge to be correct, or *authoritative*. During the classical periods of Greek and Roman civilization, there was an accumulating body of knowledge gained through what we might call *early science*. However, a great many problems remained mysterious as they were not yet answerable by rational or empirical inquiry. Thus, powerful governmental and spiritual systems were available to answer questions. Why did a town suffer the plague? According to the ancient Greek philosopher and playwright, *Sophocles*, the cause for such suffering might be the sins of *Oedipus* that were illuminated by the Oracle of Delphi. Whether the authoritative source would someday be proven wrong was accepted, but at least an answer was available. Answers are things humans like to have, even if it is known to be just the best one available at that time. Certain witnesses are considered to speak with authority when in court, including expert witnesses. It is assumed that they have accumulated enough knowledge of the issues about which they speak to be given more credence than others. In fact, we are very familiar with using authority as a way of knowing. The concept of textbooks is based on it—even this textbook.

During the medieval era, a new approach to empiricism was developing and formed the seeds of the Enlightenment. This new approach is often called *experimentalism*, an offshoot of empiricism. The problem with simple empiricism, is that while our sensory experiences tend to be vivid and believable, they can also be flawed and lead us to false

conclusions. After all, when viewing a straw in a glass of water, your visual experience will tell you that the straw is bent. If you cannot move the straw, you may have trouble refuting that possibility. Experimentalism is the idea that, in order to gain better access to the truth, you must control the possible sources of *bias* in our observations—you must be able to move the straw around to critically evaluate your perceptions. We must be able to test our observations by making predictions about them that would only happen *if* our beliefs were correct. We can also endeavor to demonstrate that our beliefs are, in fact, *not true*—to give our explanations every opportunity to be wrong (perhaps hoping they will be not proven wrong). Sir Karl Popper (1959) believed that this constant striving for falsification of our theories was crucial. Those that could *not* be falsified were simply more *likely* to be true. If a theory failed a test, the choices would be to determine whether the observation was flawed or the theory was flawed. If the latter, then the researcher knows to move onto better explanations—not continue to hang onto untenable beliefs.

This is the *goal* of all modern scientific psychology: to develop explanations for observations that repeatedly withstand critical inquiry. It has been the development of the scientific method that has gradually increased our ability to be systematic and controlled in the way we answer questions. This experimental method is the tool that differentiates a science from a philosophy, or from a mere belief system.



Consider This

Use any recent and well-publicized legal case to examine how rationalism, authority, empiricism, and experimentalism might play a role in how we come to our own personal conclusions.

The Early Scientific Method

Philosophers during medieval and early Enlightenment eras began to consider the ways that our observations (our empirical knowledge) could be incorrectly derived. They sought to explain the various ways that people make observational errors, in the hopes that these could be controlled. *Roger Bacon*, in his *Opus Majus* written in 1269, posited that there were four main causes of error:

1. An unjustified reliance on authority.
2. People become slaves to habit and tradition.
3. People respond quickly to currently popular prejudices.
4. People tend to be arrogant about their own perceived knowledge.

Rather than the correctness of our beliefs or the way that they guide our knowledge, these four tendencies represent a kind of intellectual laziness he believed we experience.

Without critical appraisal of our beliefs, the ease that these four tendencies create will prevent the accumulation of new knowledge or new answers. How many times has each of us been resistant to looking into new things or trying new solutions, simply because they were not how we had done things before?

Francis Bacon (no relation to Roger Bacon) would later provide his own criticism of authority and the overreliance on the “factual” nature of simple empirical observations. He believed scientists should view these sensory observations with moderate skepticism and he suggested four *Idols* or limitations of human thinking:

1. *Idols of the Tribe*: Humans are limited by their own sensory apparatus. Our senses can distort our observations, often in ways outside of our awareness. Our intelligence is great, compared to other animals, but not unlimited. That limit presents the boundary of the things we can understand. The tribe is, roughly, the species.
2. *Idols of the Cave*: Humans develop provincial thinking that represents their own culture, preferences, and prejudices. The cave is our immediate environment.
3. *Idols of the Marketplace*: The terms we use to describe ideas become important in that they begin to define those ideas. How many times do our own politicians race to be the first to label legislation the “(fill in the blank) Bill of Rights”? Once thus labeled, it becomes difficult to argue against the legislation, because it *sounds* like an argument against this or that *right*. No matter what the legislation contains, the label becomes the selling point—because we take these labels too seriously.
4. *Idols of the Theater*: The easiest, most vivid explanations seem to carry their own truth. This is the genesis of fads and faddism. Psychology is replete with examples of therapies that emerged as nothing more than a fad, even when it was potentially dangerous. Rebirthing therapy, thought-field therapy, facilitated communication, and adolescent boot-camps all emerged to some level of acceptance by practicing therapists—even when evidence of actual effectiveness was absent (Lilienfeld, 2007). After all, people had “seen” them working. Only later, when clear evidence emerged that they were ineffective and potentially harmful (Romanczyk, Arnstein, Soorya, & Gillis, 2003) did these practices begin to recede.

Other Biases/Errors in Thought and Observation

The human cognitive process is fraught with tendency toward error and bias. We must process a great deal of information every day and sometimes we create shortcuts, or *heuristics*, to facilitate the process of pragmatic understanding. Conversely, we can

work to increase accuracy by using algorithms—comprehensive systems for gathering all important data and fully understanding our experiences. But algorithms are often lengthy and we usually do not have the time to use algorithms everything around us.

Consider the auto mechanic who sees a car being towed into his station as a “no start.” He has two courses of action. First, he can pull out his list of every possible cause and slowly go through each until he finds the culprit. Second, he can access his shortcut list of things he has learned are the most-likely causes. When this author was young and naive and working on cars, I once spent an hour trying to diagnose a no-start. Trying this and that, the battery was beginning to suffer from the repeated attempts. After enough time had passed, a friend walked out (smiling) and asked if I had checked the fuel level. This story is done. Heuristics *can* save us time, but can also be flawed and can lead to errors in decision making. The following are just a few well-known biases, heuristics, and cognitive errors. There are many more heuristics that are ready to be studied by eager students of psychology.

Confirmation bias. All undergraduates will at some point be asked to write a term paper for one class or another. What they might not know is that their professor is going to be on the lookout for confirmation bias. Nickerson (1998) describes confirmation as the tendency for humans to find (and pay significant attention to) evidence that tends to support the beliefs we already hold or the points we are trying to make. Conversely, the same bias allows us to easily discredit or find fault with evidence that does not support our positions. This is not to say that this tendency is intentional, but rather insidiously unintentional. When we discredit opposing points of views, we really do think they are flawed and we really do find them to be substandard and unconvincing. However, the same critical eye is not applied as easily to that which supports us.

Think about the way that we view evidence in cases we hear about in the media—especially that concerning celebrities or people we have some information about already. Even worse, think about news pertaining to the politicians we do or do not support. When we hear news or read things from spurious sources on the Internet, confirmation bias will play a large role in the degree to which we say, “Darn right!” or “Internet lies!” In fact, while once watching an ad for a politician (in full agreement), I caught myself abruptly changing my opinion of the information’s veracity *when I learned he was from the other political party*. I quickly self-reflecting and was privately chagrined, but we are *all* human.

Are prosecuting attorneys or defense attorneys immune to this influence? The very nature of the adversarial legal system in the United States encourages each side to be more inclusive and careful when they are at the point of making a case. Defense attorneys are likely to pay much more attention to details that confirm their argument that their

client is not guilty. Prosecuting attorneys are much more likely to emphasize and focus on the evidence that supports their argument that the defendant is guilty—especially in a system that places the responsibility for highlighting *exculpatory* (i.e., suggesting no guilt) information on the defense attorney.

Availability heuristic. We often answer questions or make decisions based on information that is simply easier to recall (i.e., more available), rather than information based on accuracy. Kahneman, Slovik, and Tversky (1982) explained the availability heuristic as the tendency to estimate the likelihood of an occurrence based on the ease with which it is recalled. Even though airline traffic was and remains the safest way to travel long distances, many people developed anxieties about commercial flight just after the tragic events of September 11, 2001. So many of us watched the dreadful images of two planes flying into the World Trade Center towers—over and over—and it became difficult to *not* think of them. So, when asked if airline travel was safe, many may have tended to doubt. In fact, the Transportation Security Administration (TSA) was created to keep us safe, even though private security had not actually *failed* to do anything they were supposed to be doing.

Hindsight bias. When we examine our past beliefs about the way events will unfold, after they have unfolded, we have a tendency to believe we were more knowledgeable and more prescient than history probably would have recorded. In fact, we have an idiom that describes this very phenomenon, “hindsight is always 20/20.” Fischhoff (1975) describes hindsight bias as the tendency to *retrospectively* overestimate our *previous* predictive abilities. Think about the number of investigations that went into the reasons our government did not anticipate that members of a terrorist group would fly commercial airplanes into skyscrapers on 9/11. There is no problem with the investigations, but simply concluding that the actions were predictable—after we already know they happened—is likely the result of hindsight bias (and perhaps a little confirmation bias thrown in for good measure).

Representativeness heuristic. Imagine that you began to talk with someone while sitting on a bench at a park. You learn the man is 50 years old and is a university professor. After a brief chat about colleges and majors, you say good-bye and walk to your car. In the lot there are three vehicles—yours, a ratty old pickup truck, and a new Lexus. Which one do you think is owned by the professor? Kahneman et al. (1982) described the representativeness heuristic as the tendency to judge the probability based on its superficial association with a prototype, or stereotype. Walking to the parking lot, many people would probably say that the professor has a nice Lexus. Professors can often communicate well and may seem more cultured or even wealthier than they actually deserve. However, if you *really* knew something about being a professor, you might actually pick the ratty old truck. Lexus vehicles are more expensive than professors can generally afford.

Pseudoscience

All of the biases and frailties of human cognitive decision making create an environment in which it is vital to develop systems which seek to understand and control those known errors. If we know how easy it is for us to derive conclusions which are wrong and we know how they came to be wrong, then we must also be able to design methods to correct these tendencies. Those studies which do not utilize known strategies to control error and which nevertheless yield “factual” conclusions are sometimes known as *pseudoscientific*. Lilienfeld, Ammirati, and David (2012) define **pseudoscience** as that which generates claims that *appear* to be or are touted to be scientific, but really are not.

A good example of this is the recent advancement of the form of psychotherapy known as *Thought Field Therapy* (TFT; Callahan, 2001). The creators of this intervention described the treatment as being more powerful in the treatment of PTSD (i.e., posttraumatic stress disorder) than any other intervention—even claiming 98% effectiveness. To be trained in TFT at the highest level required \$100,000 for a week of guidance (as per our last review of its website in 2012). This must be powerful indeed to lure well-trained psychotherapists to part with that much money. In a public debate (SSCP, 2001) the creator, Roger Callahan, was unable to support his claims with any scientific study—*that had been reviewed by peers*.

His claims were thought by members of the debate to be extreme (e.g., curing phobias within minutes by thinking of the feared stimulus and “tapping” on the body in a very important spot), but he assured the group that his results were only not published because they were rejected as contrary to the orthodoxy of the field. In response, he was given unprecedented access to publish any study he wished—without critical scientific screening—in a special edition of a noted journal. The journal was prefaced with the fact that the normal peer-review system was suspended, but critical scientists would also be allowed to publish their critiques. If you wish to read the fascinating episode in the fight between genuine psychological science and (what is believed by many to be) pseudoscience, the journal is *Journal of Clinical Psychology*, 57(10), October 2001, *Special Issue: Thought Field Therapy*.

Bunge (1984) identified seven hallmarks of pseudoscience. These are things that are done by pseudoscientists to prevent actual science from undermining their assertions:

1. Use of ad hoc (as the need arises and convenient) hypotheses to fend off criticism.
2. Heavy use of confirmation strategies, rather than critical challenges.
3. Lack of self-correction.
4. Reversed burden of proof.
5. Reliance on testimonials and anecdotes.

6. Use of obfuscating, scientific-sounding language.
7. Lack of connectivity with other disciplines.

Thus scientific psychology has an important goal to help differentiate knowledge that is generated in controlled and careful processes, from that which is not—whether the latter is due to normal and expected human biases and errors, or due to careless pseudo-scientists in our own field.

Modern Scientific Method

The modern scientific method is designed to provide explanations for observed phenomena that are the most likely to be free from error and systematic bias. The goal of psychology is to explain in a verifiable way how things happen, or why people do what they do, so that we might be able to predict, anticipate, and correct those times when the behavior poses some kind of functional problem. Ultimately, the goal is the development of a sound **theory** for the causes of the observations. Theories are general explanatory mechanisms. They should be useful to understand a behavior or experience and should be open to criticism and the possibility of falsification. A good theory:

- Organizes and explains the known observations about the phenomenon.
- Can be used to generate critical, testable predictions.
- Can be modified to incorporate new observations.

Once a theory has been established, it is most useful if it can be used to generate specific and testable predictions called **hypotheses**. The hypothesis is an extension of the explanatory power of the theory. Essentially, if the theory is correct, then a specific result should occur. More importantly, what if the theory is *not correct*? If a theory can explain any result and no result will provide evidence of theoretical failure, then it is nonscientific. Without the possibility of failure, science cannot address the question. The theory *may* still be correct—it just is not a *scientific* theory.

The third step includes systematic and controlled observations to determine the effect of the manipulations required by the hypotheses. Often experimental steps are used to provide the unbiased control. The variables and terms most associated with experimental manipulations are discussed later. These observations will address the theory in some fashion. If the observations provide evidence that the hypothesis (and thus the theory) was not correct, modifications to the theory can occur, allowing it to produce better future predictions. If the observations do not refute some aspect of the theory, they will be noted as one challenge the theory survived. Good scientists, according to Popper's philosophy of science (1959), will then seek yet another challenge—then another. Good theories are those that survive repeated challenges—though their proponents are always faithfully trying to prove them wrong.

Components in Experimental Studies

In addition to sound theories and hypotheses as discussed earlier, experimental scientific observations often have similar components and features. One of the more important applied aspects of experimental manipulation is the ability of the researcher to reliably measure all of the components of a theory. For example, if a researcher believes that increases in a family's "stress" levels affect a child's academic performance and likelihood of interpersonal aggression, she would first be required to have a stable and reliable measurement of (1) academic performance, (2) interpersonal aggression, and (3) family stress. If we do not have good measures of these things, we will never be able to quantitatively verify that they are changing—at all.

Next, we need to be able to manipulate the variable(s) we believe causes the others to change. In this case, it is not simply good enough to say the variables are "related," for example, that poor performance and school fights tend to occur when there is family stress. This is a merely correlational relationship, and it might just as easily be that the causal arrow goes the other direction, or even that some other unknown influence is causing both things. We need to be able to actively increase or decrease family stress, then measure what happens to school performance and interpersonal aggression. There are many ways to create this manipulation (not simply to "stress out" families and then watch), including some that are statistical or organizational.

The influence that we *believe causes* an effect is often called the *independent variable*, or IV. The presumed effect of changes in the IV is often called the *dependent variable*, or DV. In other words, we presume that the magnitude of the DV will *depend on* the magnitude of the IV. In the example earlier, we would presume that the level of academic performance (i.e., DV-1) and the amount of interpersonal aggression (i.e., DV-2) will depend on the amount of intra-family stress (i.e., IV). If you increase stress, fights should go up and grades should go down. If you decrease stress, fights should go down and grades should go up. (As a point of clarification, we are using this study as a *fictional* example only.)

As a first step this is good, but it is not scientifically sufficient. The other influences that should be controlled or measured are those things that might *also* and reasonably be presumed to influence school performance and fights. What about health? What would you do if you learned that, during the course of the study, the general health status of the school had changed? Perhaps when you began, most of the children had the flu. As the study progressed, they recovered. While you might have been able to decrease family stressors, at the same time the children were just feeling physically better and were less grumpy and found studying to be easier. It is now harder to conclude the stress relief was causative.

Any potential process that might have the power to alter the levels of the DV—but which is not the IV—is considered a potential *confound*. When they exist, a study is

considered *confounded* and difficult to interpret. However, simple processes including controlling the confound (when possible) or measuring and recording the levels of the confounding variable (so that their influence can be removed statistically) turn these problems into scientific **controls**. Well-controlled studies are an important part of the scientific method.

Consider This

Take any social problem you may think needs to be fixed and then attempt to broadly design a research project. What is your guiding theory? How are you going to create a specific and testable hypothesis from it? In the design of your experiment, be sure to think through the independent and dependent variables, potential confounds, and controls.

Applying Science to Real-World Child Forensic Interviews

A few years ago a graduate student working in one of our forensic child psychology labs wanted to study the effects of rapport on child interviews (Boles, 2003). The simple idea was that if children were okay with the interviewer and process, they would experience high rapport and if the children did not like what was happening, they would experience low rapport. For many years, every interviewing protocol advocated spending significant time in rapport building. It seemed to make sense, but there was no scientific evidence that it was actually important. The theory (the best it could be specified) was that in conditions of low rapport, children are reluctant to answer and may not provide many details. However, children in conditions of high rapport would be more talkative and provide more details.

All he needed to do was manipulate rapport, right? If the theory was sound, then simply doing this would *cause* a change in the number of spoken details. Children were given math problems to solve after watching a video and before being asked about it. For some children the problems were well above their developmental stage and for others they were easy. Measures of rapport indicated that, yes—the children in the “hard” math group did not want to be there any longer, and those in the “easy” group felt just fine. Those who were experiencing high rapport levels did, in fact, say more things than those experiencing low rapport levels. Though the conclusion is not as important as the way the study was designed, there was some support for the notion that it did impact the number of details they provided.

The benefits of studying such problems using a true scientific method are clear. There are multiple ways that the study can be criticized, but each yields a better study to

be run. Arguments about a theory tested this way tend to be data-driven, rather than ideology-driven, or *ad hominem* (i.e., personal attacks against the speakers). Even failures to support a point or nullify a point in a scientific experiment often yield more possibilities for study, rarely fewer. Science becomes a *process* of seeking the truth, rather than a means of convincing others of an arbitrary “fact.”

IMPORTANT HISTORICAL DEVELOPMENTS IN THE FIELD OF FORENSIC PSYCHOLOGY

The Case of Daniel M’Naghten

On January 20 in 1843 a man, **Daniel M’Naghten**, who had been lurking in the area of Downing Street in London approached Edward Drummond, the private secretary of British Prime Minister Robert Peel. When M’Naghten was close enough he pulled a pistol from his coat and fired one shot into Mr. Drummond. While trying to produce a second pistol, he was subdued by police constables. Mr. Drummond was able to walk away and received medical treatment and was reported to have been recovering well. He later died, though it eventually became unclear if he actually died from the effects of his wound or the type of subsequent medical treatment he received.

The important question dealt with in his trial was about *why* M’Naghten shot Drummond, not *whether* he shot him. The evidence was clear and observed by constable and other witnesses. He did it. However, he did not seem to intend to assassinate Mr. Drummond. Rather, he was apparently trying to assassinate Mr. Drummond’s boss, the Prime Minister, Robert Peel. Was this a cold-blooded politically motivated murder? M’Naghten was known to hold radical political beliefs, which would have made this a feasible motive. He was also known to hold delusional beliefs, especially fears of being persecuted by “the Tories.” He had made several complaints to authorities, which were eventually viewed as paranoid and phobic fantasy.

During his trial medical evidence was produced by several physicians, which indicated that M’Naghten was suffering delusions that were so severe that he was not able to tell right from wrong and did not understand the true nature of reality when he acted to assassinate the prime minister, but shot Drummond. The jury was cautioned that they could find him not guilty by reason of insanity if they believed he was not aware of what he was doing—and that he would not be released, but provided medical intervention (e.g., institutionalized). The prosecutors did not push strongly for conviction. The jury quickly returned a verdict of “not guilty by reason of insanity.” M’Naghten spent the next two decades in mental health facilities for the criminally insane. He died in custody in 1865.

When Queen Victoria learned of the not guilty verdict, she was incensed and sent a letter to the Prime Minister, demanding an explanation. Subsequently, the House of

Lords sent to the judges of the Court of Common Pleas a set of 12 questions about the case and findings. The answer to one of those questions was:

To establish a defense on the ground of insanity it must be clearly proved, that, at the time of committing the act, the party accused was laboring under such a defect of reason from disease of the mind, as not to know the nature and quality of the act he was doing, or if he did know it, that he did not know that what he was doing was wrong.

These responses have become known as the *M'Naghten Rules* and continue to be part of the basis for determinations of criminal responsibility in many countries, including most states of the United States and the United Kingdom, though the United Kingdom has subsequently passed rules in 1957 related to homicide, which minimize the M'Naghten standards. Judicial decisions that use these rules and determine reduced responsibility for a crime may still mandate involuntary or voluntary commitments to psychiatric institutions for periods of time that are indeterminate. In other words, those found not guilty by reason of insanity (or guilty, but insane) may actually find themselves in confinement for a longer period of time than those found guilty (and sane). In fact, the confinement may turn out to be for life.

This is certainly not the first case of leniency shown in criminal matters. Such decisions can be found in early Greek, Roman, Norman, and Chinese literature. The notoriety the case was given brought the problems of determining criminal responsibility into public view. Thus, the case was important in the evolution of modern law.

Hugo Munsterberg

The early introduction of psychology to the U.S. legal system was awkward and, at times, bitter. Hugo Munsterberg was a German immigrant and Harvard professor, who had been recruited by William James. Munsterberg believed that psychology had much to offer the judicial system and was somewhat combative about his demand that forensic psychology be considered and utilized (Brigham, 1999). He published a collection of essays on forensic psychology, *On the Witness Stand* (1908). In this collection, he took a strong position that the legal system should be utilizing the forensic psychology literature—and that not doing so was problematic. However, his communication style was widely seen as combative and arrogant and may have backfired. In 1909, John Wigmore authored a rebuttal (in the form of a fictional libel trial against Munsterberg) in which he took the position that psychology did not have enough yet to offer and was guilty of promising things it could not deliver. For the rest of the 20th century, the relationship between the judicial system and the field of forensic psychology was rocky and distant (Brigham, 1999).

Brandeis Briefs, *Muller v. Oregon*

While Hugo Munsterberg was busy arguing with John Wigmore via publications about the role of forensic psychology in the legal system, one of the first widely noted, nonlegal opinions was being offered in a court case by social scientists. An attorney, Louis Brandeis, was presenting a case before the Oregon Supreme Court related to the length of workdays for women (*Muller v. Oregon*, 1908). Brandeis submitted a social science opinion brief that the state's law that limited the length of workdays for women to 10 hours should be upheld. His brief cited social science that he suggested indicated that longer days were shown to be deleterious to women's health. The court upheld the law. Social science opinion briefs that are introduced in legal proceeding are now often referred to as *Brandeis briefs*.

Brown v. Board of Education

In 1954, the U.S. Supreme Court heard a case that challenged the segregation of Caucasian and black children allowed by the much earlier *Plessy v. Ferguson* (1896) decision. *Plessy v. Ferguson* created the "separate but equal" doctrine in the states and was used as justification for racial segregation. During *Brown v. Board of Education*, a legal brief was introduced and endorsed by 35 prominent psychological scholars of the time. The brief outlined the ways that segregation was detrimental to the psychological health of black children and that the earlier *Plessy v. Ferguson* decision should be overturned. Ultimately, the court overturned the separate but equal doctrine and consequently made it illegal to require racial segregation of schools.

Subsequent to this interest in prejudice and racism, which was sparked by *Brown v. Board of Education*, Gordon Allport (one of the notable signatories to the social science Brandeis brief introduced in the case) published a (now seminal) book on the psychology of racism and prejudice entitled, *The Nature of Prejudice* (1954). In this pioneering work (which was not specifically forensic), Allport attempted to provide a theoretical basis for understanding how prejudiced views could alter such things as the way that everyday scenes or crime scenes were remembered. Although this book is not often cited as an early forensic psychology tome, these very principles would reemerge later in the 1960s at the beginning of the modern memory research era.

In 1979, **Elizabeth Loftus**, a social psychologist at the University of Washington, authored *Eyewitness Testimony*. This book discussed the memory process and directly challenged the "gold-standard" status of event memory in legal proceedings. Through her elegant work with simple studies, she was able to demonstrate with shocking ease just how fallible memory could be—and how easy it was to corrupt. Though we talk more about her research and memory models later in this book, it is fair to say that her work and the subsequent debates were an important part of the expansion

of experimental psychology in the latter half of the 20th century continuing into the 21st century.

This gradually increasing awareness of the value of psychology in legal arenas led to the emergence of professional associations. In 1968, the American Psych-Law Society (aka AP-LS) was founded as the first dedicated professional association of forensic psychologists. In 1977 AP-LS began to publish its forensic psychology journal, *Law and Human Behavior*. Shortly thereafter, the American College of Forensic Psychology was created in 1983 along with its journal, the *American Journal of Forensic Psychology* in 1985. Experimental forensic psychology studies, literature reviews, and forensic conceptual pieces are still published in these journals today. In 1981, the American Psychological Association created its Division 41, *Psychology and Law*, which merged with AP-LS in 1984. In 1995, the APA began to publish *Psychology, Public Policy, and Law*.

Recent Events Relevant to Forensic Psychology

Every day events occur that are relevant to forensic psychology, and for the people involved the consequences are substantial. However, these cases do not often rise to the point of public awareness. When cases arise that capture the attention of the media and the public, the effects of the cases may reach deep into the scholarly activity of social scientists and deep into the actions of government. Though it is difficult to quantify the various impacts of specific cases, some are so well known that they merit special mention as important points in our history. This is not, however, meant to argue that they are the *only* important points.

Serial Murderers

Kenneth Bianchi. In 1977, Yolanda Washington was found dead on a hillside in Los Angeles. Yolanda was a prostitute and it was determined that she has been forcibly raped and murdered. Over the next few months, several more women would be discovered raped, murdered, and placed nude on hillsides in Los Angeles. The murderer became known as the Hillside Strangler. One of the victims was 12 years of age. Later a similar rape and murder of two girls in Bellingham, Washington would lead investigators to Kenneth Bianchi and his cousin, Angelo Buono. Investigators were able to connect both the California and Washington murders to Bianchi—and Bianchi implicated Buono. However, the psychiatrist for the defense soon reported that Kenneth Bianchi was suffering from a disorder known then as *multiple personality disorder*. Today, this is known as dissociative identity disorder. For months psychiatrists debated whether he had this disorder. If he did, he might be found not guilty by reason of insanity and be allowed to be assigned to a forensic mental health center, rather than prison. If this had happened, there was some possibility that he could convince psychiatrists that he was “cured” and perhaps even be released back into society.