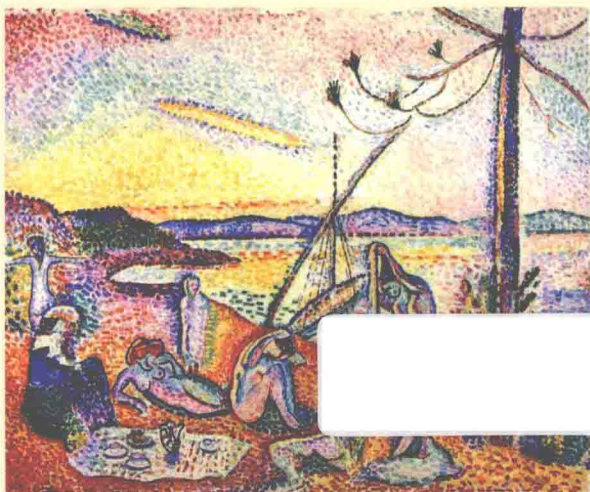


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第6版

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改变心理学的 四十项研究



FORTY STUDIES
THAT CHANGED
PSYCHOLOGY

[美] 罗杰·霍克 (Roger R. Hock) 著

 人民邮电出版社
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内容提要

本书从历史的角度展示了心理学史上 40 项经典研究，以及由其所开拓的新领域的研究。本版较之前一版，新增加了两个全新的重要研究，更新了 56 篇参考文献。对上一版中保留下来的 38 个研究，更新了最新的评价。

本书分 10 个心理学专题，包括“生物学与人类行为”、“知觉与意识”、“学习和条件反射”、“智力、认知和记忆”、“人的发展”、“情绪和动机”、“人格”、“精神病理学”、“心理治疗”和“社会心理学”。每个专题下选取了 4 项研究。每项研究的内容包含：题目、作者、原始出处、问题提出的背景、理论假设、研究方法、结果、讨论、意义与批评、近期应用和参考文献。

本书既适合初学心理学的人，也适合那些从事心理学事业的工作者。阅读本书，能让人领略心理学实验的精确性、客观性，明白什么是科学的心理学。并使你惊叹于人类对心理学研究成果的巧妙应用，从而激发你的研究热情，促进更多新的、更有实践指导价值的研究出现。

推荐序

中国有句老话：路遥知马力，日久见人心。还有一句俗语：好酒得够年头。虽然都是经验之谈，但是包含了人生的真谛。选择读什么样的书，何尝不是如此？

书是人类的朋友，读好书，就是与好人交朋友，让人进步。那么什么是好书呢？可能每个人都有自己的看法。但经典著作肯定是好书中的好书。通过读经典著作，会给人智慧的启迪，促进其思考，激发其探究事物或现象本质的动力。

心理学是一门研究心理现象和规律的科学。在100多年的发展中，已经取得了大量的成果。其中一些研究堪称经典，并成为构筑当代科学心理学大厦的“栋梁之材”或“基石”。学习和掌握这些经典研究，无论对于一名心理学的初学者，还是对于以心理学为自己终身从事职业的专业工作者，无疑都是很重要的。

对于初学心理学的人来说，大多数人很想读一读心理学的经典研究，充实和提高自己。但是，在具体的实践过程中，常常是将经典研究读了一半，大部分人就放弃了。因为每一项研究，既包括了许多专业术语，又包括了理论假设、实验方法、实验设计、数据的统计分析、结果的分析讨论和结论，等等，真是“太难了”，让读它的人感到眼花缭乱、无所适从。

然而，《改变心理学的40项研究》一书的出现，使一切发生了改变。

作者不仅是一位心理学家，而且也是位优秀的教育家和作家，用自己简练的思维和那支“生花的”妙笔，将“枯燥的”心理学经典研究变成了一个又一个“引人入胜的”故事。阅读此书，会将你逐渐带入神秘的心理世界，在揭开心理学神秘面纱的同时，也会让你感到心理学将不再“枯燥”、不再“远离实际”，也不再“高不可攀”。同时，阅读这些经典研究，还会让你折服于心理学大师们的绝妙思路和天才的想法。

《改变心理学的40项研究》（第6版）一书，共包括心理学的十个领域，每个领域选取了四项研究。较之于第5版，更新了两项新研究和相应的参考文献。

（1）生物学与人类行为。包括了Gazzaniga开展的大脑两半球功能研

究，题目为“一个脑还是两个脑”；Rosenzweig、Bennett和Diamond探讨了环境经验对大脑发育的影响，题目为“丰富的经历=更大的大脑？”；Bouchard、Lykken、McGue、Segal和Tellegen等人开展的明尼苏达双生子研究，题目为“人的本性是‘天生的’吗？”；Gibson和Walk用视崖这一装置，对人类婴儿的深度知觉的探究，题目为“小心视崖！”。

(2) 知觉和意识。包括了Fantz对如何研究婴儿认知过程的探索，题目为“长时间的注视”；Aserinsky和Kleitman通过记录眼动，首次对人类睡眠过程的探讨，题目为“睡眠，毫无疑问会做梦……”；Hobson和McCarley对做梦过程的实验研究，题目为“梦，并不浪漫……”；Spanos通过催眠后人类行为的变化，探讨了催眠的心理本质，题目为“行动，如同被催眠了一样”。

(3) 学习和条件反射。包括了Pavlov以狗为实验对象，探讨条件反射的形成过程，题目为“不只限于分泌唾液的狗”；Watson和Rayner以婴儿为被试，采用条件反射法，让其形成恐惧情绪，题目为“情绪化的小阿尔伯特”；Skinner以操作性条件反射的原理，探讨了鸽子是如何形成迷信行为的，题目为“敲敲木头”；Bandura、Ross和Ross依据社会学习理论，以幼儿为研究对象，探讨了攻击行为的形成，题目为“观察到攻击行为……做出攻击行为”。

(4) 智力、认知和记忆。包括了Rosenthal和Jacobson以小学生为对象，探究了“心想事成”是真的吗？题目为“所想即所得”；Gardner的多元智力理论，题目是“你在哪方面更聪明？”；Tolman虽然是行为主义心理学家，但其以老鼠为对象开展的学习，却发现大脑参加的证据，题目为“心中的地图”；Loftus通过对目击证人记忆的研究，探讨了“眼见为实”这句话在多大程度上是可靠的，题目为“感谢记忆！”。

(5) 人的发展。包括Harlow以婴猴为对象，揭示了爱的本质，你相信“有奶便是娘”这句话吗？题目为“爱的发现”；Piaget通过对自己孩子的观察，探讨了儿童认知能力发展的特点，题目为“眼不见，不一定心不烦”；Kohlberg用道德两难故事，揭示了道德判断发展的规律，题目为“你的品德如何？”；Langer和Rodin通过以养老院里生活的老人为对象，发现自我控制对他们的身心发展所起的积极作用，题目为“让你愉快的控制力”。

(6) 情绪和动机。包括了Masters和Johnson以成人为对象，探讨男女性行为的特点及规律，促进了对性行为特点的科学认识，题目为“性动

机”；Ekman和Friesen对原始部落人们面部表情认知的研究，发现面部表情的跨文化特性，题目为“我能读懂你的脸”；Holmes和Rahe通过总结个体生活中应激事件，编制出一个科学而又简便的社会再适应量表，题目为“生活、变化和应激”；Festinger和Carlsmith通过对认识与行为不一致的探讨，揭示个体认知失调的内部规律，题目为“认知失调”。

(7) 人格。包括了Rotter编制的内控和外控量表，题目为“你能主宰自己的命运吗？” Bem编制衡量男女性别特征量表，深化了人们对男女心理的认识，题目为“男性化或女性化……还是双性化？”；Friedman和Rosenman通过对心脏病人的分析研究，提出A型人格概念，使人们对性格与疾病的关系有进一步的认识，题目为“和心脏赛跑”；Triandis、Bontempo、Villareal、Asai和Lucca等人将文化分为集体主义文化和个体主义文化，发现不同类型文化对人们行为有影响，题目为“个人与集体”。

(8) 心理病理学。包括了Rosenhan等人以精神科大夫对精神病人诊断标准的研究，促进精神科大夫应该思考诊断的标准是否客观的问题，题目为“这儿，谁是疯子？”；Freud从无意识心理学的角度，揭示了人们在日常生活中是如何应付各种挫折的，题目为“你再次获得防御”；Seligman和Maier以动物为实验对象，发现多次失败会导致习得性无助，题目为“习得性抑郁”；Calhoun以老鼠为对象研究了居住空间的拥挤程度对心理的影响，使人们对居住空间有了新的认识，题目为“拥挤导致行为失常”。

(9) 心理治疗学。包括了Smith和Glass采用元分析的方法，对各种心理治疗效果进行了对比研究，结果发现各种治疗方法的效果与人们的想象不同，题目为“为自己挑选心理治疗师”；Wolpe用系统脱敏法对恐惧心理的治疗，探讨了如何缓解人们的恐惧心理，题目为“缓解你的恐惧心理”；Rorschach用墨迹图，对个体的心理做出诊断，题目为“投射出真正的你”；Murray采用主题统觉测验，要求人们看图讲故事，以了解其人格特点，题目为“编个故事吧！”。

(10) 社会心理学。包括Zimbardo通过斯坦福监狱实验，发现人们的角色对其行为产生了重要影响，题目为“无论哪所监狱”；Asch用三条长短不同的线段，发现在群体压力下，对线段的判断如何出现失误的，题目为“从众的力量”；Darley和Latané采用实验室实验，探讨了什么情况下人们不会立即伸出援助之手，题目为“你会伸出援手吗？”；Milgram通过虚拟的实验室任务，揭示了个体对他人不听从自己要求时的行为特征，题目为“无条件服从”。

上述十个心理学领域中的每一项研究，作者是按相同的结构加以介绍的。具体有一个非常具有吸引力的题目、研究的原始出处、研究的背景、理论假设、研究方法、研究结果、讨论、结果的意义、批评、最近的应用和参考文献。

在阅读此书时，需要注意以下几个方面：

第一，仔细阅读研究的背景，了解研究者是如何发现和提出研究问题的。这部分内容非常关键，因为有人曾经说过：“发现问题比解决问题更重要”。所以，这部分内容需要反复地阅读。

第二，关于理论假设，在阅读时要注意掌握研究者是如何将复杂的现象加以提炼，简化成心理学上的操作性定义和能够检验的假设。

第三，在阅读研究的研究方法和结果、讨论和结果的意义等内容时，不仅需要仔细阅读研究者是如何选择被试、实验材料、安排实验程序的，还要了解研究者是如何控制无关变量的、如何安排实验计划、执行研究计划和对研究结果加以分析和解释的。反思一下他们对结果的解释是否可信？是支持了研究的假设还是没有支持？同时，还有学习他们在研究过程中是如何贯彻伦理性原则的。

第四，通过阅读批评部分，可以启迪你换角度思考自己的研究。这样能够促进自己更进一步地思考问题，以及如何用更为详尽和更为严格实验来证明自己的发现是否真实可靠。这部分还有一个重要的价值，就是培养人们的正向思维和逆向思维，使思考更加全面，避免“孤芳自赏”心理的出现。

第五，也是最后一点，需要强调的是：再好的书，独自一人学习而不与人交流，收获将会打折扣。在阅读本书时，与他人共同进行交流学习体会，非常重要。萧伯纳曾经说过：你有一只苹果，我也有一只苹果，两人交换以后，每个人还是只有一只苹果；然而，你有一种思想，我有一种思想，两人交换以后，每人各有两种思想。简单的加法大家谁都会，但简单的事情就看谁能坚持实践。如果坚持了，就会从中受益无限！

白学军

天津师范大学心理与行为研究院

（博士、教授、博士生导师）

For Diane Perin Hock and Caroline Mei Perin Hock

PREFACE

The publication of this sixth edition of *Forty Studies* marks the 18th anniversary of its original release. The majority of the studies included in this edition are the same ones that made up a large part of the first edition. This demonstrates how these landmark studies continue to exert their influence over psychological thought and research today. These original studies and the ones that have been added over the past 18 years provide a fascinating glimpse into the birth and growth of the science of psychology, and into the insights we have acquired into the complexities of human nature.

Many studies of human behavior have made remarkable and lasting impacts on the various disciplines that comprise the vast field of psychology. The findings generated from these studies have changed our knowledge of human behavior, and they have set the stage for countless subsequent projects and research programs. Even when the results of some of these pivotal studies have later been drawn into controversy and question, their effect and influence in a historical context never diminish. They continue to be cited in new articles; they continue to be the topic of academic discussion; they continue to form the foundation for hundreds of textbook chapters; and they continue to hold a special place in the minds of psychologists.

The concept for this book originated from my many years of teaching psychology. Psychology textbooks are based on key studies that have shaped the science of psychology over its relatively brief history. Textbooks, however, seldom give the original, core studies the attention they richly deserve. The original research processes and findings often are summarized and diluted to the point that little of the life and excitement of the discoveries remain. Sometimes, research results are reported in ways that may even mislead the reader about the study's real impact and influence about what we know and how we know it. This is in no way a criticism of the textbook writers who work under length constraints and must make many difficult choices about what gets included and in how much detail. The situation is, however, unfortunate, because the foundation of all of psychology is scientific research, and through over a century of ingenious and elegant studies our knowledge and understanding of human behavior have been expanded and refined to the advanced level of sophistication that exists today.

This book is an attempt to fill the gap between the psychology textbooks and the research that made them possible. It is a journey through the

headline history of psychology. My hope is that the way the 40 chosen studies are presented will bring every one of them back to life so that you can experience them for yourself. This book is intended for anyone who wishes a greater understanding of the true roots of psychology.

CHOOSING THE STUDIES

The studies included in this book have been carefully chosen from those found in psychology texts and journals and from those suggested by leading authorities in the many branches of psychology. As the studies were selected, 40 seemed to be a realistic number both from a historical point of view and in terms of length. The studies chosen are arguably the most famous, the most important, or the most influential in the history of psychology. I use the word *arguably* because many who read this book may wish to dispute some of the choices. One thing is sure: no *single* list of 40 studies would satisfy *everyone*. However, the studies included here continue to be cited most frequently, stirred up the most controversy when they were published, sparked the most subsequent related research, opened new fields of psychological exploration, or changed most dramatically our knowledge of human behavior. These studies are organized by chapter according to the major psychology branches into which they best fit: Biology and Human Behavior; Perception and Consciousness; Learning; Intelligence, Cognition, and Memory; Human Development; Emotion and Motivation; Personality; Psychopathology; Psychotherapy; and Social Psychology.

PRESENTING THE STUDIES

The original studies are not included in their entirety in this book. Instead, I have discussed and summarized them in a consistent format throughout the book to promote a clear understanding of the studies presented. Each reading contains the following:

1. An exact, readily available reference for where the original study can be found
2. A brief introduction summarizing the background in the field leading up to the study and the reasons the researcher carried out the project
3. The theoretical propositions or hypotheses on which the research rests
4. A detailed account of the experimental design and methods used to carry out the research, including, where appropriate, who the participants were and how they were recruited; descriptions of any apparatus and materials used; and the actual procedures followed in carrying out the research
5. A summary of the results of the study in clear, understandable, nontechnical, nonstatistical, no-jargon language
6. An interpretation of the meaning of the findings based on the author's own discussion in the original article

7. The significance of the study to the field of psychology
8. A brief discussion of supportive or contradictory follow-up research findings and subsequent questioning or criticism from others in the field
9. A sampling of recent applications and citations of the study in others' articles to demonstrate its continuing influence
10. References for additional and updated reading relating to the study

Often, scientists speak in languages that are not easily understood (even by other scientists). The primary goal of this book is to make these discoveries meaningful and accessible to the reader and to allow you to experience the excitement and drama of these remarkable and important discoveries. Where possible and appropriate, I have edited and simplified some of the studies presented here for ease of reading and understanding. However, this has been done carefully, so that the meaning and elegance of the work are preserved and the impact of the research is distilled and clarified.

NEW TO THE SIXTH EDITION

This sixth edition of *Forty Studies* offers numerous noteworthy and substantive changes and additions. I have added two of the most influential studies in the history of psychology about how we perceive the world. The first is Robert Fantz's revolutionary discovery of an ingenious method to allow us to study what very young infants "know" (from 1961). The second, Philip Zimbardo's famous Stanford Prison Study (from the early 1970s) focuses on the powerful and controlling forces some situations can exert over our behavior.

In addition, the Recent Applications sections near the end of the readings have been updated. These sections sample the numerous recent citations of the 40 studies into the 21st century. The 40 studies discussed in this book are referred to in over 1000 research articles every year! A small sampling of those articles is briefly summarized throughout this edition to allow you to experience the *ongoing* influence of these 40 studies that changed psychology. All these recently cited studies are fully referenced at the end of each reading along with other relevant sources. As you read through them, you will be able to appreciate the breadth and richness of the contributions still being made by the 40 studies that comprise this book.

Over the three years since completing the fifth edition, I have continued to enjoy numerous conversations with, and helpful suggestions from, colleagues in many branches of psychological research about potential changes in the selection of studies for this new edition. Two studies I have for some time considered including have been mentioned frequently by fellow researchers, so I have added them in this edition. Each of these two newly incorporated studies, in

their own significant ways, expanded our perceptions of two very basic aspects of human nature and added to our knowledge of the complexity and diversity of the human experience.

One of the newly added studies in this edition provided a window into the perceptual and thinking abilities of infants. Of course, behavioral scientists have known for decades that infants' behaviors in relation to the world around them change and develop quickly in many ways. But just what do babies know? How do they think? How skilled are they at perceiving and processing events in their environment? You can imagine this is a difficult research challenge to overcome because infants cannot talk to you about what is going on in their brains. Instead, researchers must infer what infants perceive and how they think from their observable behaviors. In essence, this was how the famous Swiss psychologist, Jean Piaget, who is discussed in Chapter V of this book, formed his theories of early cognitive development in preverbal infants. In the early 1960s, Robert L. Fantz discovered a new way of allowing us to peer inside the perceptions of infants: looking at what *they* are looking at. It turns out that even very young infants prefer to look at certain objects or events over others. By measuring this behavior, referred to as *preferential looking*, researchers have been able to study infants' knowledge and perception in many and varied contexts. This methodology, along with some enhancements to it (also pioneered by Fantz), remains today, nearly 50 years later, the most widely employed technique when psychologists and others wish to study the perceiving, thinking, and knowing processes of infants.

The second study added to this new edition is one of the most well-known research undertakings in the history of psychology. Many would argue, and rightly so, that perhaps it should have been a mainstay of this book from the beginning. It is Philip Zimbardo's famous "Stanford Prison Study." That said, the historical timing is perfect to include this study now because a renewed interest has arisen in this study and the inferences drawn from it over the past several years, due to the high news-profile prisoner scandals in Iraq and various U.S. prisoner policies relating to the "War on Terror." In basic psychological theory, two forces determine our behavior in a given situation: our internal, dispositional factors (that is, who we are) and the influences of the situation in which we are behaving. In his simulated prison study, Zimbardo set out to examine how ordinary people's behavior might change when placed in a situation that carries with it a great deal of inherent power, in this case, a prison.

All the studies, regardless of vintage, discussed in the upcoming pages have one issue in common: research ethics. One of the most important building blocks of psychological science is a strict understanding and adherence to a clear set of professional ethical guidelines in any research involving humans or animals. Let's consider briefly the ethical principles social scientists work diligently to follow as they make their discoveries.

THE ETHICS OF RESEARCH INVOLVING HUMAN OR ANIMAL PARTICIPANTS

Without subjects, scientific research is virtually impossible. In physics, the subjects are matter and energy; in botany, they are plants; in chemistry, they are atoms and molecules; and in psychology, the participants are people. Sometimes, certain types of research do not permit the use of human participants, so animal subjects are substituted. However, typically, the ultimate goal of animal research is to understand human behavior better, not just to study the animals themselves. In this book, you will be reading about research involving both human and animal subjects. Some of the studies may cause you to question the ethics of the researchers in regard to the procedures used with the subjects.

When painful or stressful procedures are part of a study, usually the question of ethics is noted in the chapter. However, because this is such a volatile and topical issue, a brief discussion of the ethical guidelines followed by present-day psychologists in all research is included here in advance of the specific studies described in this book.

Research with Human Participants

The American Psychological Association (APA) has issued strict and clear guidelines that researchers must follow when carrying out experiments involving human participants. A portion of the introduction to those guidelines reads as follows:

Psychologists strive to benefit those with whom they work and take care to do no harm. In their professional actions, psychologists seek to safeguard the welfare and rights of those with whom they interact. . . . When conflicts occur among psychologists' obligations or concerns, they attempt to resolve these conflicts in a responsible fashion that avoids or minimizes harm. . . . Psychologists uphold professional standards of conduct, clarify their professional roles and obligations, accept appropriate responsibility for their behavior, and seek to manage conflicts of interest that could lead to exploitation or harm. . . . Psychologists respect the dignity and worth of all people, and the rights of individuals to privacy, confidentiality, and self-determination. (excerpted from *Ethical Principles of Psychologists and Code of Conduct*, 2003; see <http://apa.org/ethics>).

Researchers today take great care to adhere to those principles by following basic ethical principles in carrying out all studies involving human participants. These principles may be summarized as follows:

1. *Informed consent.* A researcher must explain to potential participants what the experiment is about and what procedures will be used so that the individual is able to make an informed decision about whether or not to participate. If the person then agrees to participate, this is called *informed consent*. As you will see in this book, sometimes the true purposes of an experiment cannot be revealed because this would alter the behavior of the participants and contaminate the results. In such cases, when deception is used, a subject still must be given adequate information for informed

consent, and the portions of the experiment that are hidden must be both justifiable based on the importance of the potential findings and revealed to the participants at the end of their involvement in the study. In research involving children or minors, parent or guardian consent is required and the same ethical guidelines apply.

2. *Freedom to withdraw at any time.* Part of informed consent is the principle that all human participants in all research projects must be aware that they may withdraw freely from the study at any time. This may appear to be an unnecessary rule, because it would seem obvious that any subject who is too uncomfortable with the procedures can simply leave. However, this is not always so straightforward. For example, undergraduate students are often given course credit for participating as participants in psychological experiments. If they feel that withdrawing will influence the credit they need, they may not feel free to do so. When participants are paid to participate, if they are made to feel that their completion of the experiment is a requirement for payment, this could produce an unethical inducement to avoid withdrawing if they wish to do so. To avoid this problem, participants should be given credit or paid at the beginning of the procedure *just for showing up*.
3. *Confidentiality.* All results based on participants in experiments should be kept in complete confidence unless specific agreements have been made with the participants. This does not mean that results cannot be reported and published, but this is done in such a way that individual data cannot be identified. Often, no identifying information is even acquired from participants, and all data are combined to arrive at *average* differences among groups.
4. *Debriefing and protection from harm.* Experimenters have the responsibility to protect their participants from all physical and psychological harm that might result from the research procedures. Most psychological research involves methods that are completely harmless, both during and after the study. However, even seemingly harmless procedures can sometimes produce negative effects, such as frustration, embarrassment, or concern. One common safeguard against those effects is the ethical requirement of debriefing. After participants have completed an experiment, especially one involving any form of deception, they should be debriefed. During debriefing, the true purpose and goals of the experiment are explained to them, and they are given the opportunity to ask any questions about their experiences. If there is any possibility of lingering aftereffects from the experiment, the researchers should provide participants with contact information if participants might have any concerns in the future.

As you read through the studies included in this book, you may find a few studies that appear to have violated some of these ethical principles. Those studies were carried out long before formal ethical guidelines existed and could not be replicated under today's ethical principles. The lack of

guidelines, however, does not excuse past researchers for abuses. Judgment of those investigators must now be made by each of us individually, and we must learn, as psychologists have, from past mistakes.

Research with Animal Subjects

One of the hottest topics of discussion inside and outside the scientific community is the question of the ethics of animal research. Animal-rights groups are growing in number and are becoming increasingly vocal and militant. More controversy exists today over animal subjects than human participants, probably because animals cannot be protected, as humans can, with informed consent, freedom to withdraw, or debriefing. In addition, the most radical animal rights activists take the view that all living things are ordered in value by their ability to sense pain. In this conceptualization, animals are equal in value to humans and, therefore, any use of animals by humans is seen as unethical. This use includes eating a chicken, wearing leather, and owning pets (which, according to some animal-rights activists, is a form of slavery).

At one end of the spectrum, many people believe that research with animals is inhumane and unethical and should be prohibited. However, nearly all scientists and most Americans believe that the limited and humane use of animals in scientific research is necessary and beneficial. Many lifesaving drugs and medical techniques have been developed through the use of animal experimental subjects. Animals have also often been subjects in psychological research to study issues such as depression, brain development, overcrowding, and learning processes. The primary reason animals are used in research is that to carry out similar research on humans clearly would be unethical. For example, suppose you wanted to study the effect on brain development and intelligence of raising infants in an enriched environment with many activities and toys, versus an impoverished environment with little to do. To assign human infants to these different conditions would simply not be possible. However, most people would agree that rats could be studied without major ethical concerns to reveal findings potentially important to humans (see Reading 2 on research by Rosenzweig and Bennett).

The APA, in addition to its guidelines on human participants, has strict rules governing research with animal subjects that are designed to ensure humane treatment. These rules require that research animals receive proper housing, feeding, cleanliness, and health care. All unnecessary pain to the animal is prohibited. A portion of the APA's *Guidelines for the Ethical Conduct in the Care and Use of Animals* (2004) reads as follows:

Animals are to be provided with humane care and healthful conditions during their stay in the facility. . . . Psychologists are encouraged to consider enriching the environments of their laboratory animals and should keep abreast of literature on well-being and enrichment for the species with which they work. . . . When alternative behavioral procedures are available, those that minimize discomfort to the animal should be used. When using aversive conditions, psychologists should adjust

the parameters of stimulation to levels that appear minimal, though compatible with the aims of the research. Psychologists are encouraged to test painful stimuli on themselves, whenever reasonable. (see <http://apa.org/science/anguide.html>).

In this book, several studies involve animal subjects. In addition to the ethical considerations of such research, difficulties also arise in generalizing from animal findings to humans. These issues are discussed in this book within each reading that includes animal research. Each individual, whether a researcher or a student of psychology, must make his or her own decisions about animal research in general and the justifiability of using animal subjects in any specific instance. If you allow for the idea that animal research is acceptable under *some* circumstances, then, for each study involving animals in this book, you must decide if the value of the study's findings supports the methods used.

One final note related to this issue involves a development in animal research that is a response to public concerns about potential mistreatment. The city of Cambridge, Massachusetts, one of the major research centers of the world and home to institutions such as Harvard University and the Massachusetts Institute of Technology (MIT), created the position of Commissioner of Laboratory Animals within the Cambridge Health Department (see <http://www.cambridgepublichealth.org/services/regulatory-activities/lab-animals/lab-animals-overview.php>). This was the first such governmental position in the United States. Cambridge is home to 44 research laboratories that house over 200,000 animals. The commissioner's charge is to ensure humane and proper treatment of all animal subjects in all aspects of the research process, from the animals' living quarters to the methods used in administering the research protocols. If a lab is found to be in violation of Cambridge's strict laws concerning the humane care of lab animals, the commissioner is authorized to impose fines of up to \$300 per day. As of this writing, only one such fine has been imposed; it amounted to \$40,000 (for 133 days in violation) on a facility that appeared to have deliberately disregarded animal treatment laws (Dr. Julie Medley, Commissioner of Laboratory Animals, e-mail, April 5, 2007). In all other cases, any facility that has been found in violation willingly and quickly corrects the problem. The studies you are about to experience in this book have benefited all of humankind in many ways and to varying degrees. The history of psychological research is a relatively short one, but it is brimming with the richness and excitement of discovering human nature.

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