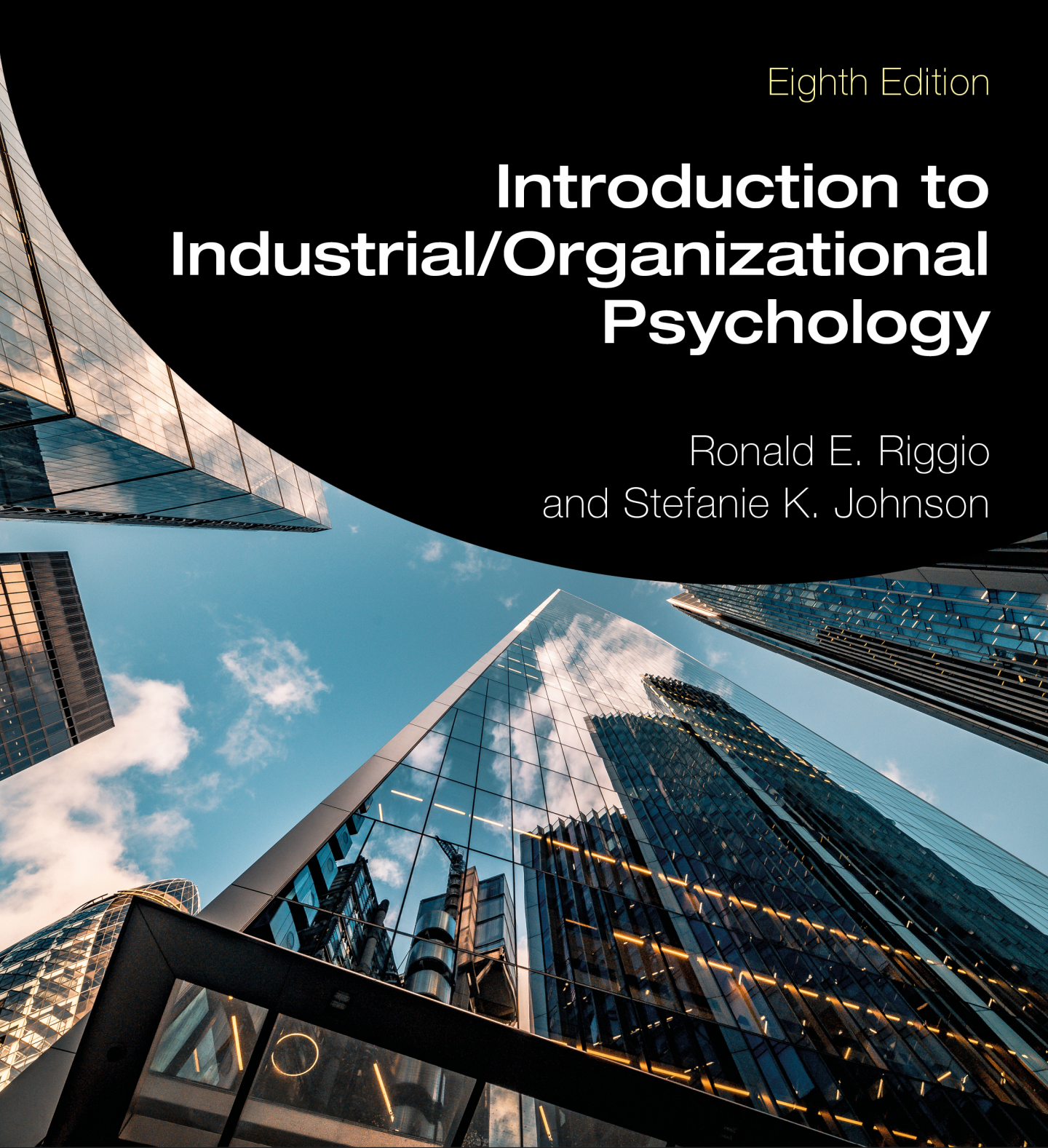


Eighth Edition

Introduction to Industrial/Organizational Psychology

Ronald E. Riggio
and Stefanie K. Johnson



“This volume is the first step toward teaching I/O students about the importance of diversity and inclusion. Not only does Riggio and Johnson’s book cover all of the essential I/O psychology material, it does so in a way that prepares our students for one the most important issues today – how to embed diversity, equity, inclusion and social justice into the workplace. The focus on citing authors in a way that acknowledges gender and racial equity sets a new bar for other textbooks and raises awareness about biases that are built into textbooks of the past.”

Michelle “Mikki” Hebl, *Professor of Psychology and Management, Rice University, USA*

“Professors Riggio and Johnson have written an extremely timely textbook that students will find rigorous and relevant. This textbook relies on the latest research in industrial and organizational psychology and related fields including organizational behavior and human resource management. As such, it includes knowledge about talent management that will allow managers in all industries and organizations of all sizes create more inclusive, effective, and healthy work environments.”

Herman Aguinis, *Professor of Management, and Chair of the Department of Management*



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INTRODUCTION TO INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY

Introduction to Industrial/Organizational Psychology provides a complete overview of the psychological study of the world of work. Written with the student in mind, the book presents classic theory and research in the field alongside examples from real-world work situations to provide deeper insight.

This edition has been thoroughly updated to include the latest research on each key topic, and now features:

- A spotlight on diversity, equity, and inclusion throughout, including coverage of LGBTQIA+ inclusion and racial justice
- Expanded coverage of ethics in I/O psychology practice
- Increased emphasis on cross-cultural and international issues
- Coverage of the changing nature of work, post-pandemic, including remote working, worker stress, and burnout
- A new focus on technologies related to I/O such as virtual reality and computer adaptive testing
- New figures, illustrations, and charts to grab the reader's attention and facilitate learning

Accompanied by extensive student and instructor resources, it is a must read for all students on I/O psychology courses and courses in work psychology and organizational behavior, and for practicing managers who want a comprehensive overview of the psychology of work.

Ronald E. Riggio, Ph.D., is the Henry R. Kravis Professor of Leadership and Organizational Psychology at Claremont McKenna College. He has published more than two dozen authored or edited books, more than 200 articles and book chapters, and is a charter member of the Society for Industrial and Organizational Psychology (SIOP).

Stefanie K. Johnson, Ph.D., is a SIOP fellow and Associate Professor of Management at CU Boulder's Leeds School of Business where she studies the intersection of leadership and diversity.



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INTRODUCTION TO INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY

EIGHT EDITION

■ Ronald E. Riggio
■ Stefanie K. Johnson

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PREFACE

Ronald E. Riggio and Stefanie K. Johnson

Introduction to Industrial/Organizational Psychology provides an inviting and comprehensive introduction to the field of industrial/organizational (I/O) psychology. Two important themes guided the writing of this textbook. First, because I/O psychology is a field with both a strong scientific base and an applied orientation, the book demonstrates the connection between psychological theory and application: theoretical concepts are shown to lead to useful interventions. Second, this book was designed and written with the student in mind. Whenever possible, the text draws on examples and illustrations from the world of work that students understand. For instance, many work-setting examples include service industries, such as retail chains and fast-food restaurants, and Internet companies and startups rather than concentrating solely on traditional office or factory work settings.

Introduction to Industrial/Organizational Psychology is an introductory textbook that appeals to a wide range of students with varying academic backgrounds. It is designed for use in undergraduate survey courses in I/O psychology or in psychology of work behavior courses and is suited for courses that contain a mix of psychology majors and nonmajors. The text is appropriate for courses at four-year colleges and universities, as well as at two-year community colleges. Although the book is written at a level that makes the material accessible to students who are relatively new to the field of psychology, the coverage of topics is comprehensive. The text includes “classic” theories and research along with the latest developments and innovations to make this a thorough and challenging overview of the field. Instructors will find this the most thoroughly referenced I/O psychology text on the market!

What’s New: The Eighth Edition

The world of work and work technology continues to change and evolve. It has been several years since the last edition, so there has been a thorough updating, but the basic structure of the text has remained the same from the last edition. The main changes involve updates related to remote work and diversity and inclusion given the global pandemic and increased focus on diversity, equity and inclusion. We have added research on diversity and inclusion throughout the book along with the marker “D&I insights” to call attention to this important topic whenever diversity and inclusion implications are discussed.



We also updated the research cited through an equity lens to ensure that we are citing male and female scholars equally and ensuring that we are recognizing the research of scholars of color. As part of the publication process we are surveying the cited authors to ask them to report on their race, gender, sexual orientation and disability status and other characteristics. We did this in response to Aguinis and colleagues' 2017 article showing the lack of fender quality in the citations within IO textbooks.

Aguinis, H., Ramani, R. S., Campbell, P. K., Bernal-Turnes, P., Drewry, J. M., & Edgerton, B. T. "This Is Our House!" Why Are IO Psychologists Losing at the Gender Disparity Game?.

Aguinis, H., Ramani, R. S., Campbell, P. K., Bernal-Turnes, P., Drewry, J. M., & Edgerton, B. T. (2017). Most frequently cited sources and authors in industrial-organizational psychology textbooks: Implications for the science-practice divide, scholarly impact, and the future of the field. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 10(4), 507–557

We emailed the first authors of the 1127 articles cited in our textbook to request demographic information. Approximately 34% of the authors responded. Based on those who filled out the surveys, 32% of authors who responded were male and 67% were female and 1% were non binary. We assume that this was not a random sample because our own estimate of author gender (based on first author name) was 57% female and 43% male, suggesting that women may have been more likely to respond to our survey than men. Our own estimate of author gender mirror's data collected for a SIOP membership survey which showed that 57% of SIOP members are women (43% men). Regarding race, 77% of our respondents identified as White, 7% as Black, 12% as Asian, and 5% as Hispanic/Latino. These numbers are similar to the SIOP membership data which shows that 75% of members are white, 7% are black, 5% are Asian, and 5% were Hispanic. We did not make our own race assumptions in the way we did gender based on name. In addition, 10% of our surveyed authors identified as members of the LGBTQ community and 10% reported having a disability. Regarding career, 63% were business professors, 30% were Psychology professors, and 7% were practitioners.

There are some new topics added, including:

- A greater focus on issues related to diversity including sexual harassment, racial justice, LGBTQIA+ inclusion, persons with disabilities, among others.
- More student-oriented features to help readers relate to the content in the text.
- New and expanded coverage of international issues.
- Cutting-edge topics related to the global pandemic including remote work, hiring remotely, collaboration in dispersed teams, and worker stress and burnout.
- A focus on new technologies related to IO including virtual reality, computer adaptive testing, gamification, and others.

- Thoroughly updated. The latest research on each key topic has been included. There are more than 250 new references in this edition, most published within the last five years. Again, students will find this an excellent resource for term papers and in their future coursework. We worked to include a more equitable coverage of female scholars and scholars of color.
- Expanded instructor's manual and ancillaries. The instructor's manual and test bank have been expanded, thoroughly revised, and updated and includes exercises, PowerPoint presentations, and additional material.

Text Structure

Introduction to Industrial/Organizational Psychology is divided into four parts. Part I provides an introduction to the field and an overview of research methods used by I/O psychologists. Part II covers employee and personnel issues, including separate chapters on pre-employment selection issues like job analysis, employee selection and placement, evaluating employee performance, and employee training. Part III is called “Worker Issues” and deals with processes that are worker centered: worker motivation, positive work attitudes and behaviors, and worker stress and burnout. Part IV covers organizational topics that are group oriented: including communication, working in teams, decision making in teams, leadership, organizational power and politics, organizational structure, and culture and development.

Special features included in each chapter of *Introduction to Industrial/Organizational Psychology* complement the text narrative and provide further illustrations and examples of I/O psychology in the “real world.” One of these features, Applying I/O Psychology, takes some of the theoretical and research material presented in the chapter and shows how I/O psychologists apply this knowledge to make positive changes in actual work settings. A second feature, Up Close (which is particularly student oriented), provides students with practical information concerning how I/O psychology can increase understanding of everyday work situations. A third feature, On the Cutting Edge, highlights more current areas of research or practice in I/O psychology. Inside Tips, found at the beginning of each chapter, is designed to connect chapters and help students see the “big picture” of the field of I/O psychology, as well as to provide specific study tips.

The chapters are designed to facilitate learning. Each chapter begins with an outline of the topics and ends with a chapter summary and a series of study questions/exercises that help students review and think about the chapter material. Stop & Review questions are strategically placed in the margins. These questions are designed to allow the student to “self-test” whether she or he has retained important material just read or studied. A glossary of key terms also appears throughout the chapters, with a more complete alphabetical glossary at the end of the book.

The text is complemented by instructor's resource materials prepared and updated by our team of faculty who have experience with the course and text. We have worked

hard to make this ancillary package the best available. It includes detailed outlines, suggestions for lectures, discussion questions, in-class exercises, audiovisual resources, and other special features.

Acknowledgments

We would like to thank the many adopters of the previous editions of the text. Many of you have provided important feedback that has helped in revisions. I would also like to thank the many reviewers whose valuable input helped shape the seven editions of the text. They have become too numerous to list, but special thanks to John F. Binning, Illinois State University, and Chris Cozby, California State University, Fullerton.

Special thanks go to our research assistants throughout the years. We welcome all comments, criticisms, and suggestions. Please contact us at:

Ronald E. Riggio, PhD
Kravis Leadership Institute
Claremont McKenna College
850 Columbia Avenue
Claremont, CA 91711
e-mail: ron.riggio@cmc.edu

Follow me on Twitter: <http://twitter.com/#!/ronriggio>

Stefanie K. Johnson, PhD
Leeds School of Business
University of Colorado Boulder
995 Regent Drive
Boulder CO 80305
e-mail: Stefanie.Johnson@Colorado.edu

Follow me on Twitter, Instagram, LinkedIn @DrStefJohnson

To the Student (Please Don't Skip This. It Will Help.)

This book was written for you. When the first edition of this text was written in 1987, the textbooks at the time were too technical and not “student friendly.” So we have tried to keep our students in mind every step of the way – keeping the book current, readable, and relevant to students’ current and future working lives. There are special features, such as the Stop & Review questions, that were created to help you determine if you are retaining the material you are reading and studying.

This text is set up to cover the broad-ranging field of I/O psychology, and we’ve tried to keep it interesting and lively. In addition, the text is designed not only to

maximize learning, but also to be a resource book for continued explorations of the field of I/O psychology. For instance, there is career and educational information about the field, and the book is thoroughly referenced. Although some students may find it distracting to have points referenced with “(Author, year)” throughout, these references will be extremely useful in finding starting points for term papers or future exploration. We hope that you will find this text an important, permanent addition to your personal library. It is a book that can be used in future scholarly work, and you will find it a useful reference in your later career.

We would like to thank the student readers of previous editions for their valuable input, suggestions, and comments about the text. Please let us hear from you as well.

How to Read and Study This Book

This book is set up to maximize your learning about industrial/organizational psychology. Key terms are set in boldface type when they are first discussed, and brief definitions of these terms appear in the adjacent margins (longer definitions are at the end in a glossary). You should look over the key terms before you begin reading a chapter and then alert yourself to them as you read. As you move along, you can test yourself by using the margin definitions. Of course, the key terms deal only with major points in each chapter, for there is much more to mastering the material. Not only should you be able to define important terms and concepts, but you should also know how they apply to work behavior. As you learn the important points made throughout the book, stop occasionally and ask yourself such questions as, “How does this apply to the working world that I know?” “Have I seen examples of this concept before?” “How can the material that I am learning be applied in my own working life?” “How can this new information help me to see work and work behavior in a new way?”

Also located in the margins are brief Stop & Review questions. Their purpose is to stop you at certain points in your reading/studying so that you can go back and review the material just covered. Often, students find that they get caught up in the reading, and they forget to retain, or “encode,” the material for later recall. The review questions are intended to help you check if you are retaining important pieces of information.

Three other chapter features are also set off from the text. The first, Applying I/O Psychology, deals with specific applications of I/O psychology theories or concepts. The Up Close feature offers helpful research-based information that can further your understanding of your past, present, or future world of work. These usually take a how-to approach to some common issue or problem at work. On the Cutting Edge offers some of the latest developments in the field including the world of remote work. D&I Insights are included throughout the book so that you are aware of the important opportunities and concerns for employees around diversity and inclusion. Please know that we worked to cover the research of top scholars in an equitable way. We know that you all as students are diverse and care deeply about issues related to

diversity and inclusion. So do we! We wanted the topics you read about to reflect the diversity of I/O Psychologists and reflect you, the reader.

At the beginning of each chapter is another learning aid called Inside Tips. This aid will help you understand how the various chapters and topic areas fit together. They may also offer suggestions on how to study the information in the chapter.

At the end of each chapter is a brief summary of the central concepts. There are also study questions and exercises designed to make you think a little more about the topics presented and to review and apply what you have learned. Finally, there are suggestions for additional reading. These usually include at least one reference book related to the general theme of the chapter (useful as a starting point for research papers) and a couple of topical readings—books or journal review articles on a specific topic. Welcome to I/O psychology.

PART I

Introduction



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Introduction to I/O Psychology

Our History and the Important Role We Play in Ensuring Workplace Equity

Inside Tips

UNDERSTANDING INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

This first chapter is intended to define I/O psychology and to give you a feel for what the field is all about and what I/O psychologists do. Because industrial/organizational psychology is so broad in its scope, it is not easy to gain a good understanding of the entire field by simply learning definitions or studying some of its historical roots; to fully comprehend the scope of I/O psychology, you need to get through this entire textbook. Chapters 1 and 2 provide an introduction and an overview of methods used by I/O psychologists to conduct research. In this first chapter, we will do a “deep dive” into issues of measurement because it is so fundamental to what I/O psychologists do. We will also explore employment laws that are critically important for both employers and for I/O psychologists who are called upon to help employers prevent unfair discrimination in the workplace.

Moving beyond the first two chapters, each chapter, from Chapter 3 to Chapter 15, presents a general topic and several specialties that I/O psychologists study. As you go through the book, step back and try to see how the various topics fit together. You will then begin to find the threads that hold the field of I/O psychology together.

Like it or not, we will all spend a big part of our lives working. Not only does work take up a large chunk of the day, it also often governs where we live, how we live, and the kinds of people with whom we associate. It makes sense, then, that we should want to learn more about the world of work and our own work behavior.

Have you ever wondered what motivates people to work, what makes someone a good manager or leader, or why some people are competent, loyal workers, whereas

others are untrustworthy and unreliable? Have you ever considered the ways a particular job might be redesigned to make it more efficient, or the processes by which large organizations make decisions? Have you noticed that work can sometimes be very engaging and a great source of satisfaction, but it can also be terribly stressful at times? Industrial/organizational psychologists have studied all these and other questions and issues.

In this chapter, we will define the field of industrial/organizational psychology, look at some of the specialty areas within the discipline, and learn a bit about what industrial/organizational psychologists do. We will also look briefly at the history of industrial/organizational psychology, focusing on some of the important early developments in the field. Finally, we will explore how industrial/organizational psychology's focus on measurement and compliance with equal employment opportunity laws make diversity and inclusion a central feature of the field.

In fact, we have worked to make diversity and inclusion a core theme of this textbook. Despite federal laws forbidding discrimination based on demographic characteristics, we will show (in this chapter and throughout the textbook) that bias continues to impact employment decisions, and we will provide solutions to create a more equitable workplace. As shared in a 2019 Society for Industrial/Organizational Psychology (SIOP) report (Johnson, 2019), 57% of SIOP members identify as women (43% as men), and 75% identify as White. For the 25% of people of color, the largest proportion was Black (7%), followed by Hispanic/Latino (6%). Chinese, multiracial, and other each comprised 3%, whereas Asian Indian represented 2%.

Despite the prevalence of women as members of SIOP, there is bias against women in terms of access to prestigious roles and in publications. Aguinis and colleagues analyzed the diversity of the most cited authors in I/O textbooks finding that only 17% of the most cited authors were women, and only one textbook author was a woman (Aguinis et al., 2017). The Aguinis study did not examine the race, sexual orientation, or other marginalized identities of textbook authors. Indeed, there is evidence of publication bias in academic journals that actually makes it more difficult to publish studies on diversity (Avery et al., 2021; Cislak et al., 2018; King et al., 2018), so it is not terribly surprising that these studies are not elevated to textbooks.

Thus, not only do we include diversity and inclusion as a central theme throughout the textbook, but we also were intentional about the diversity of the scholars whose research we feature and highlight, so that this edition of the book provides a more accurate representation of the type of work that industrial/organizational psychologists do. We collected data on the race and gender of the authors to ensure that our cited authors are diverse. You will see a feature throughout the book that highlights issues of diversity and inclusion in the workplace.

What Is Industrial/Organizational Psychology?

Psychology
the study of behavior and
mental processes

Psychology is the scientific study of behavior and mental processes. Psychologists use systematic scientific methods in an effort to understand more about the hows

and whys of behavior and human thought processes. Within the broad field of psychology are many specialty areas, each of which focuses on a different aspect of behavior. For instance, developmental psychology focuses on developmental behavior over the life span, cognitive psychology studies human thinking (cognition) and how the mind works, and social psychology studies human social behavior. There are also specialties in psychology that are more applied. For example, legal (or forensic) psychology focuses on the law, and school psychology looks at behavior in an educational setting. **Industrial/organizational psychology** is one of the more applied areas of psychology.

As you might imagine, the study of human behavior in work settings is a large undertaking. Most jobs are quite complicated, requiring the use of a wide range of mental and motor skills. Work organizations are often large and complex entities made up of hundreds or even thousands of workers who must interact and coordinate activities to produce some product, service, or information. More and more often, workers are physically distant from one another, working in different parts of the country or the world, coordinating their work activities through online networks and other communication technologies. The COVID-19 global pandemic caused a great increase in the percentage of workers who work partly, or mostly, remotely—a trend that will likely continue into the future.

Some I/O psychologists study the basic personnel functions within organizations, such as the way workers are recruited and selected, how employees are trained and developed, and the measurement of employee job performance. Other I/O psychologists study the psychological processes underlying work behavior, such as the motivation to work and worker feelings of job satisfaction and stress. Still other I/O psychologists focus on group processes in the workplace, including the relationships between workplace supervisors and subordinates and how groups of workers coordinate to get the job done. Finally, some psychologists and other social scientists study the broader picture, including the structure of work organizations and how the physical, social, and psychological environments affect worker behavior. The structure of this textbook will parallel these various areas of subspecialization in I/O psychology and related areas. (It is important to note that “industrial/organizational psychology” is the U.S. term; in Europe and in other parts of the world, this same area of specialization is referred to as “work and organizational psychology”.)

The Science and Practice of Industrial/Organizational Psychology

I/O psychology has two objectives: first, to conduct research in an effort to increase our knowledge and understanding of human work behavior; and second, to apply that knowledge to improve the work behavior, the work environment, and the psychological conditions of workers. Thus, I/O psychologists are trained to be both scientists and practitioners, in what is referred to as the scientist–practitioner model. Although some I/O psychologists may identify primarily as either scientists or

Industrial/Organizational (I/O) Psychology

the branch of psychology that is concerned with the study of behavior in work settings and the application of psychology principles to change work behavior

practitioners, most I/O psychologists believe that the best practitioners are strongly based in the science of I/O psychology. There have been many calls for I/O scholars and practitioners to work more closely together so that research informs the practice of I/O psychology, improving workplaces.

The scientific objective of I/O psychology involves the study and understanding of all aspects of behavior at work. As scientists, I/O psychologists conduct research and publish the results of these efforts in professional journals such as those listed in Table 1.1. The information published in these journals helps inform the practice of I/O psychology (Latham, 2001). We will discuss the scientific objective in great depth in Chapter 2.

It is important to realize, however, that the study of work behavior is a multidisciplinary, cooperative venture. Industrial/organizational psychologists are not the only professionals who study work behavior. Researchers in the fields of management, sociology, political science, organizational communication, economics, and several other social sciences contribute to what we know and understand about the worker and work organizations. Because this research takes place on many fronts,

Table 1.1 Journals Publishing Research in Industrial/Organizational Psychology and Related Areas

<i>Academy of Management Journal</i>	<i>Ergonomics</i>
<i>International Journal of Selection and Assessment</i>	<i>The Leadership Quarterly</i>
<i>Academy of Management Learning and Education</i>	<i>Group Dynamics</i>
<i>International Review of I/O Psychology</i>	<i>Organization Science</i>
<i>Academy of Management Perspectives</i>	<i>Group and Organization Management</i>
<i>Journal of Applied Psychology</i>	<i>Organizational Behavior and Human Decision Processes</i>
<i>Academy of Management Review</i>	<i>Industrial and Organizational Psychology: Perspectives on Science and Practice</i>
<i>Journal of Applied Social Psychology</i>	<i>Human Factors</i>
<i>Administrative Science Quarterly</i>	<i>Organizational Dynamics</i>
<i>Journal of Business and Psychology</i>	<i>Human Performance</i>
<i>American Psychologist</i>	<i>Journal of Leadership and Organizational Studies</i>
<i>Journal of Business Research</i>	<i>Psychology</i>
<i>Consulting Psychology Journal</i>	<i>Personnel</i>
<i>Annual Review of Psychology</i>	<i>Human Relations</i>
<i>Journal of Management</i>	<i>Leadership</i>
<i>European Journal of Work and Organizational Psychology</i>	<i>Personnel Psychology</i>
<i>Journal of Occupational and Organizational Psychology</i>	<i>The Industrial/Organizational Psychologist (TIP: the newsletter of the Society for Industrial and Organizational Psychology)</i>
<i>Applied Psychological Measurement</i>	<i>Training and Development Journal</i>
<i>Journal of Organizational Behavior</i>	<i>Work & Stress</i>

I/O psychologists need to be aware of recent developments in other fields. A quick look at the titles of journals that publish research of interest to I/O psychologists illustrates the multidisciplinary nature of the study of work behavior, including such terms as *management*, *business*, *personnel*, and the related area of *ergonomics* (see Table 1.1).

The multidisciplinary nature of the study of work behavior may be illustrated by current research on virtual work teams. Greater numbers of workers are physically distant from one another, especially after the COVID-19 pandemic shifted the vast majority of employees to working remotely. Yet these workers must collaborate and work together in teams. In studying virtual work teams, an information scientist might be concerned with the issue of improving the information technology so that the team members can coordinate activities efficiently. An organizational communication specialist might be concerned with understanding how the loss of the nonverbal cues present in face-to-face work teams might adversely affect the development of good working relationships among team members. A cognitive scientist might want to study the processes by which virtual teams generate ideas and make decisions. A management expert could be primarily concerned with how to lead and manage virtual work teams, whereas an economist might concentrate on the costs and benefits of virtual organizations. Many work issues are similarly complex and need to be examined from a variety of perspectives. Most importantly, we need to keep an open mind and stay in touch with what other disciplines are doing if we are going to truly understand the working world and human work behavior.

The applied objective of I/O psychology involves the application of psychological principles and of knowledge gleaned from psychological research to work behavior. As practitioners, I/O psychologists may be called on to deal with specific work-related problems or issues. For example, an I/O psychologist might evaluate an employee testing program or conduct an employee attitude survey or some type of employee training program.

The Roots and Early History of Industrial/Organizational Psychology

To understand the impact that I/O psychology has had on the world of work, it is important to know a little bit about the history of the field. We will examine historical periods in I/O psychology's past and focus on a significant event or important phenomenon in each time period. We will later look at the present and future of I/O psychology.

The Beginnings

Around the turn of the 20th century, when the field of psychology was still in its infancy, a few early psychologists dabbled in the study of work behavior. For example,

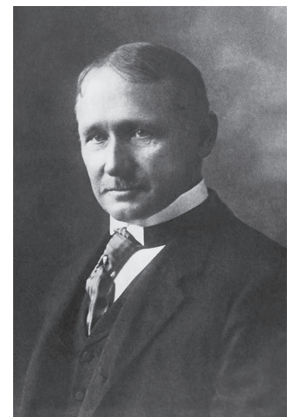


Figure 1.1 Frederick W. Taylor was the founder of the scientific management movement.

Source: Photograph by Bettmann/Getty Images.

Time-and-Motion Studies

procedures in which work tasks are broken down into simple component movements and the movements are timed to develop a more efficient method for performing the tasks

Scientific Management

begun by Frederick Taylor, a method of using scientific principles to improve the efficiency and productivity of jobs



Figure 1.2 Lillian Gilbreth was an influential early I/O psychologist.

Source: Harris & Ewing, Smithsonian Institution Archives, Accession 90–105, Image #SIA2008–1924, Wikimedia Commons.

Hugo Munsterberg was an experimental psychologist who became interested in the design of work and personnel selection for jobs such as streetcar operator (Munsterberg, 1913). Another experimental psychologist who pioneered the field of industrial psychology (the broader label, “industrial/organizational psychology,” was not used extensively until the 1970s) was Walter Dill Scott, who was interested in studying salespersons and the psychology of advertising (Scott, 1908). Scott went on to become the first professor in this new field and started a consulting company to practice what was being learned from research.

Another early spark that helped ignite the field of I/O psychology was provided not by a psychologist, but by an engineer named Frederick W. Taylor (Figure 1.1). Taylor believed that scientific principles could be applied to the study of work behavior to help increase worker efficiency and productivity. He felt that there was “one best method” for performing a particular job. By breaking the job down scientifically into measurable component movements and recording the time needed to perform each movement, Taylor believed that he could develop the fastest, most efficient way of performing any task. He was quite successful in applying his methods, which became known as **time-and-motion studies**. These time-and-motion procedures often doubled, tripled, and even quadrupled laborer output! Taylor’s system for applying scientific principles to increase work efficiency and productivity eventually became known as scientific management. In addition to applying time-and-motion procedures, Taylor incorporated into his system of **scientific management** other considerations, such as selection of workers based on abilities and the use of proper tools (Taylor, 1911).

Taylor and his followers, including the husband-and-wife team of Frank and Lillian Gilbreth (Lillian Gilbreth was one of the earliest women I/O psychologists; see Figure 1.2), implemented the principles of scientific management and revolutionized several physical labor jobs by making the accepted work procedures more efficient and productive (Gilbreth, 1916). For example, scientific management principles and procedures such as time-and-motion studies greatly improved the efficiency of a wide variety of typical types of jobs, including cabinetmaking, clerical filing, lumber sawing, and the making of reinforced concrete slabs (increased from 80 to 425 slabs per day!; Lowry et al., 1940).

Unfortunately, Taylor’s philosophy was quite narrow and limited. In his day, many jobs involved manual labor and were thus easily broken down and made more efficient through the application of principles of scientific management. Today, jobs are much more complex and often require sophisticated problem-solving skills or the use of creative thinking. Fewer and fewer people engage in physical labor. Many of these “higher-level” tasks are not amenable to time-and-motion studies. In other words, there is probably not one best method for creating computer software, developing an advertising campaign, or managing people.

UP

CLOSE What Does an I/O Psychologist Really Do?

One of the most common questions asked by students in I/O psychology courses is, “What does an I/O psychologist do, really?” The answer to this question is not simple, for a couple of reasons. First, many undergraduate students and laypersons have not had much exposure to I/O psychologists, either face-to-face or in the media. Unlike clinical psychologists, who are frequently depicted in films, interviewed on news shows, and stereotyped in cartoons and on TV, most people have never seen an I/O psychologist. A second and more important reason why it is difficult to understand what I/O psychologists do is because I/O psychologists do so many different kinds of things. I/O psychology is a broad field encompassing a large number of specialty areas, many of which are quite unrelated to one another. Consequently, it is next to impossible to talk about a “typical” I/O psychologist.

I/O psychologists are prevalent in both academic and applied careers. According to the 2020 SIOP salary survey, 55% of I/O psychologists with a Ph.D. degree and 96% of I/O psychologists with a master’s degree work in an applied role (Davison et al., 2020). Applied I/O psychologists tend to work in human resource roles and as consultants. The majority of individuals with master’s degrees in I/O psychology are working in the private sector or in government positions. What’s more, I/O psychology is a “hot” and growing field. The U.S. Department of Labor predicts that employment for I/O psychologists will grow by 3% from 2019 to 2029.

Applied I/O psychologists with Ph.Ds. are highly paid. The median income for senior consultants with a Ph.D. was \$121,000 and with an MA was \$108,000. Among

HR directors, the median income for those with a Ph.D. was \$153,000 and those with a master’s was \$108,000. For those Ph.Ds. who stay in academia, full professors in Industrial/Organizational Psychology have a median salary of \$122,000.

I/O psychologists work for a variety of major U.S. and international corporations, including Amazon, Dow Chemical, Ford Motor Company, Verizon, Toyota, Disney, Standard Oil, Google, Unisys, United Airlines, and Pepsi. They can hold job titles such as Director of Human Resources, Personnel Research Psychologist, Vice President of Employee Development, Manager of Employee Relations, Senior Employment Specialist, Testing Specialist, Quality Performance Manager, Consultant, and Staff Organizational Psychologist.

To help you better understand what I/O psychologists do, as well as help you understand the diverse areas of specialization within I/O psychology, let’s look at some brief profiles of actual I/O psychologists.

Dr. M is an I/O psychologist working for a large aerospace firm. Her main area of expertise is sophisticated robot systems, and she has helped design and test several sophisticated robotlike systems for use in outer space. Dr. M maintains that her training in research methods, which allows her to approach work problems systematically, was the most valuable part of her academic education.

Dr. C received his Ph.D. in I/O psychology in the 1970s. His first job was conducting research for the General Telephone and Electronics Laboratories on the organizational processes in some of the company’s