## Assignment Checklist

<table>
<thead>
<tr>
<th>What you should do:</th>
<th>Where?</th>
<th>When?</th>
<th>☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listen to your Friend introduce the chapter</td>
<td>🎤</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Review the concept map</td>
<td>📚</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Read the text</td>
<td>📚</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Read or listen to your Friend read the case study</td>
<td>🎤</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Look up the key terms and concepts</td>
<td>📚</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Try the learning objects</td>
<td>🎮</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Take the lesson quiz</td>
<td>🎮</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Participate in the discussion board forum</td>
<td>🎮</td>
<td></td>
<td>☐</td>
</tr>
</tbody>
</table>

Notes:
CONCEPT MAP

PSYCHOLOGY AND HUMAN RELATIONS IN THE WORKPLACE

Psychology
Science
Overt Behavior
Covert Behavior

Science of Psychology

Scientific Method

Parts
Different Forms
Descriptive Research
Correlational Research
Experimental Research
Meta-Analysis

Interpreting Research Results
Inferential Statistics
Replication

Research Ethics
Enforcing Standards
IRBs
Guidelines

Human Relations
Interpersonal Behavior
Intrapersonal Behavior
Professional Behavior
Personal Behavior
Social Darwinism
Scientific Management
Human Engineering
Human Performance Psychology

Use Research in Human Relations

Psychological Perspective

Case Study
Strategic Use Research Methods

Pure Research
Applied Research
Action Research
Participative Research
INTRODUCTION

While our primary concern in this course is the study of behavior and the application of psychology in organizational and work settings, it is important that we first look at the discipline of psychology. We are specifically interested in defining psychology and showing how we use the principles of science to effectively answer the questions we have about behavior in organizational settings.

With the advent of industrialization in the West in the 18th century, it did not take long for those involved to want to use all the resources at hand to make work more productive. Initially, the processes were based on the view of workers as secondary to improving productivity. After much time and conflict, during the 20th century this view gradually changed to one in which employees of a business were seen as integral components in the desire to create effective workplaces. In this chapter, we define what Human Relations means and how it has changed over time. We also will see how we apply the principles of psychological research to help answer the questions we have about Human Relations.

LEARNING OBJECTIVES

When you finish your study of this chapter, you will be able to

- Define what is meant by the term psychology
- Define and apply the scientific method
- Define and apply the different forms of psychological research
- Identify the characteristics of research ethics
- Define and discuss the concept of Human Relations
- Discuss the history of Human Relations and how it has changed over the past 40 years
- Identify how psychological research is used to study Human Relations
Psychology can be defined as the scientific study of behavior and its application to the world around us. Probably the most important aspect of psychology is that it is a science. The importance of science cannot be stressed enough. Prior to the emergence of science in the 17th and 18th centuries, those interested in finding the answers to life’s questions relied on superstition, knowledge passed down from the past, case studies, and their own personal opinions to answer the questions they had. The problem with this approach is that such answers lack evidence of their legitimacy and are often incorrect. A case in point can be seen in the death of George Washington. On December 12, 1799, George Washington awoke suffering from severe respiratory distress. His physician was called and prescribed a number of vinegar-based tonics and a series of blood lettings that removed half of his blood over the course of two days (Vadakan, 2004). On December 14, George Washington died from a combination of a bacterial infection and the loss of a significant amount of his blood (Wallenborn, 1997). While in retrospect, the best treatment would have been antibiotics (that would not be discovered for another 125 years), the treatment the president did receive was based on a medical theory nearly 2000 years old. It was Galen, the Greek physician, who theorized that blood existed in excess in humans, and if illness were present, the best practice was to remove an amount of blood in order to get the body back in balance (Fiorin, 2005). Galen’s ideas were based on case study, philosophical musings, and spirituality, and yet were held for 2000 years as accurately describing the nature of human health. With the widespread use of scientific inquiry, it was quickly discovered that a number of Galen’s ideas were wrong. New answers for human health were hypothesized; as practitioners began utilizing science, the hypotheses were either proven accurate and used or proven wrong and set aside.

With the rise of science, we can now look at a variety of questions and find legitimate answers. This is especially true with human behavior, which has proven over the years to be a difficult topic about which to find accurate explanations. This brings us to the next part of our definition of psychology. Behavior can be viewed from two main perspectives: that which can and that which cannot be seen. We can call these behaviors overt and covert. Overt behaviors are readily visible and can be easily counted. The number of times a person lies to a boss is an overt behavior. Covert behaviors are not readily visible, are difficult to count, and can generally be described as mental processes. The motivation for lying to a boss is a covert behavior.

The final part of our definition is probably the most applicable to Human Relations—psychology has as one of its main goals the application of the knowledge gained through research to effect positive change in the world around us. Thus, Human Relations stresses the utilization of psychological principles and research to help individuals work effectively through or with others.
Chapter 1: Psychology and Human Relations in the Workplace

The Scientific Method

As we have seen, science has the potential to create evidence that can lead to the answers we have for explaining human behavior. *Science* is a generic term that really implies the use of the scientific method. The *scientific method* is the means by which science is applied. It allows us to utilize a systematic means by which we answer questions regarding behavior. This systematic means must be clearly explained so that others may challenge the answers to see if they are accurate. The more others find the same answer, the more we can be confident that the answer is an accurate one. The parts of the scientific method are as follows.

1. Observation and Review—Scientists observe behavior and read what has already been discovered. They try to determine if there are questions that they would like to have answered.
2. Creation of a Testable Hypothesis—Scientists make a prediction that one factor is related to another. The hypothesis must be testable.
3. Conducting Research—Scientists find the best form of research to test the hypothesis.
4. Analysis of Results—Scientists statistically analyze data to determine if the results support or reject the hypothesis.
5. Publication of Results—Scientists report findings, using a standardized procedure, and attempt to have these findings reviewed by other scientists so that the findings can be evaluated, improved upon, and published.
6. Theory Building—Once published, the findings are used to build and add to the body of knowledge explaining a concept or behavior; this body of knowledge is referred to as a theory. The findings can strengthen or weaken existing theories and create new theories.

The great strength of the scientific method is that it relies on evidence gained in a controlled manner. This means that no matter how perfect an answer sounds (see Galen), if there is no scientific evidence of its validity, then the answer is not viewed as legitimate and is not generally used.

Different Forms of Psychological Research

Human Relations uses research from all areas of psychology, so it is important to understand the different types of research, when they are used, and their strengths and weaknesses. This knowledge will allow you to determine which answers are evidence based and which answers are philosophical in nature.

The first area of research at which we will look can be titled *descriptive research*. Descriptive research allows us to observe and measure behavior in a systematic manner. The main purpose of all methods used in descriptive research is to provide objective and detailed descriptions of behavior and mental processes. However, descriptive research does not show cause and effect relationships, due to little experimenter control. The data from these research procedures only allows the researcher to speculate about any cause-and-effect relationships. The different forms of descriptive research follow.
1. **Case Studies** are unique experiences that cannot be replicated in the laboratory. For example, if a business experiences large layoffs, we can study the remaining employees to see how they respond to the new environment in which they work. If we recreate this scenario in a laboratory, the reactions of the subject employees would not be similar to the reactions of employees in the real setting. Case studies are useful but are unique to a time and setting and may not be representative of other experiences.

2. **Naturalistic Observation** allows us to clandestinely view behavior as it naturally occurs. For example, we can observe the productivity of workers in a business with unrestricted access to the Internet compared to the productivity of workers in a business with restricted access to the Internet. Naturalistic observation provides us with useful raw data but it does not imply causation, as there are a number of other variables that may explain the differences we observe.

3. **Psychological Tests** allow us to measure many human behaviors, from personality traits to intelligence to aptitudes. Tests must be reliable and valid in order to assess effectively. Reliability is a statistical measure of a test’s consistency, or ability to measure repeatedly with the same result. Validity is a statistical measure of a test’s ability to measure what it is supposed to measure.

4. **Surveys** allow us to easily and cheaply ask a sample group of people who represent a larger population about their experiences, activities, and opinions. For example, we can question a group of employees about their health care preferences. It is important to make sure that the sample population mirrors the larger population so that we avoid a sampling error. It is also important that the wording of the questions does not unduly influence the responses of the participants so that we avoid semantic errors in the questions. **Caution!** When reading the results of a survey, first note when the survey was taken. World events change. People modify their thinking and change their minds. Attitudes toward fashions, education, activities, and relationships constantly change.

The second area of research is called **correlational research**. Correlational research describes the relationship between two or more variables. Correlations occur on a continuum between -1 and +1. The point on this range at which the correlation falls will determine the strength and nature of the relationship. Those relationships closer to -1 are strong and negative, meaning that the high variables of one variable are associated with the low variables of the other variable in the correlation. For example, there is strong negative correlation between job satisfaction and stress level (Mohajeri-Nelson, 2006). As one variable increases, the other variable decreases. Relationships closer to +1 are also strong yet positive, meaning that the high values of one variable are associated with the high values of the other variable. For example, there is a strong positive correlation between teamwork and job satisfaction (Vaskova, 2007). As one variable increases, the other variable increases.

The closer we get to zero, the weaker the relationship becomes. For example, in some professions there is no correlation between what a person makes and her/his job satisfaction (Knight, 2004). Correlations are frequently used in Human Relations to provide useful information about the workplace and the employees concerned. **Caution!** Again, remember that correlation does not necessarily imply causation. Too often when a strong correlation is found between two variables, readers or listeners conclude that one factor causes the other. There can be many other possible explanations for the relationship.
The third and final area of research we will look at is called experimental research. The pinnacle of psychological research allows experimenters to control the situation being studied. The benefit of having this control is that it allows the researcher to imply a cause and effect relationship. For example, an experiment could be conducted to see if increasing pay increases productivity. The features of this experiment would be as follows:

- **Hypothesis**—An educated guess: Increased pay increases productivity
- **Independent Variable**—The variable that is manipulated: Increasing pay
- **Dependent Variable**—The variable that is measured: Levels of productivity
- **Experimental Group**—The group that receives the independent variable: Receives increased pay
- **Control Group**—The group that does not receive the independent variable but does everything the control group does: Does not receive increased pay
- **Statistically Insignificant Difference**—A statistical analysis that shows that the difference between an experimental group and the control group is due to chance
- **Statistically Significant Difference**—A statistical difference that shows that the difference between an experimental group and a control group is due to the independent variable

Experimental research is potentially very effective in explaining why behaviors occur. According to Brutus, Gill, and Duniewicz (2010), randomized experiments are considered the gold standard for determining cause-and-effect relationships. One major criticism is that such studies are often artificial in nature and do not represent real life.

**Caution!** Control is the key in experiments. All factors other than the one being tested must be controlled. It is also critical that participants not know whether they are in an experimental or control group. Often the novelty of participating in an experiment can produce exceptional results. When reading experiments, check to be sure that a control group was used. Without a control group, you will never be certain of a cause-and-effect relationship.

All of the above forms of research can provide insight into the field of Human Relations. Above all else, the more that this field adheres to the values of psychology’s scientific findings, the more the field of Human Relations maintains its legitimacy as a discipline that can help individuals work effectively.

Research in all areas has been criticized at one time or another because of methodology. For example, in industrial-organizational psychology, much of the criticism of research in the area of work-family has concerned research designs and methods used (Casper, Eby, Bordeaux, Lockwood, & Lambert, 2007). Work-family research has been criticized for overreliance on cross-sectional designs, poorly understood causal relations, lack of corroborating evidence, overreliance on single source, self-report survey data, poor measures, and overemphasis on the individual level of analysis. To reduce this criticism, Casper, Eby, Bordeaux, Lockwood, and Lambert (2007) recommend consistent reporting of sample characteristics; increased sampling from distinct racial and ethnic groups; greater use of longitudinal designs and laboratory studies to examine causal and dynamic relationships; increased use of multisource data to better establish convergent validity; exploration of relations at levels of analysis other than the individual; and closer attention to the validity of perceptual measures.
Interpreting Research Results

Once a research project is completed, we must turn our attention to a crucial task: interpreting the results. We must ask several important questions: How much confidence can we place in the findings? Are the correlations between variables or observed differences between experimental conditions real ones we can accept with confidence as accurate? To answer such questions, we need to employ inferential statistics. Inferential statistics is a special form of mathematics that will allow us to evaluate the likelihood that given patterns of research results are indeed real—unlikely to be a chance event. Researchers perform appropriate statistical analyses on the data they collect. If these analyses suggest that the likelihood of obtaining the observed findings by chance is low, usually fewer than five times in one hundred, the results are described as significant. Only then are the results interpreted as being of value in helping to understand an aspect of behavior.

A specific finding is always viewed as tentative until it is replicated. That is, different researchers in different laboratories report it again. This is the reason that researchers are interested in replication. Replication involves repeating a study using different participants in an attempt to duplicate the previous findings. This is where a serious problem arises. Only rarely do the results of research yield consistent findings. A more common pattern is that some studies support a given hypothesis and others fail to support the hypothesis. The inconsistencies occur because different researchers use different methods and measures of behavior. Whatever the reason for contrasting results, they pose a problem for researchers who must decide which results should be accepted as most valid.

Meta-Analysis: Understanding the Outcomes of Many Studies

In the past, researchers used “the majority rules” approach to resolve controversies in contradictory findings. They merely counted up the number of studies that found or did not find a particular result and then concluded that the result existed if it occurred the majority of the time.

Researchers now use techniques called meta-analysis (Hall & Brannick, 2002) to deal with contradictory results from replication studies. Meta-analysis is the use of statistical techniques to sum up a body of simple studies in order to objectively estimate the reliability and overall size of the effect (Rothstein, McDaniel, & Borenstein, 2002; Stamps, 2002). Meta-analysis can determine if small effects are real or merely measurement error.

Limitation of Research

According to Brutus, Gill, and Duniewicz (2010), self-reported limitations represent a common element of empirical publications in psychological research. All research is flawed, and reported limitations represent those weaknesses that are believed to be most important. The sixth edition of the Publication Manual of the American Psychological Association (American Psychological Association, 2009) advises authors to discuss the generalizability of their findings and to provide details about the data collection, relevant aspects of the context, how and what outcomes were measured, and the length of time between measurements.
In organizational psychology, five limitations account for half of all limitations (Brutus, Gill, & Duniewicz, 2010). These limitations include a lack of causality (internal validity), omission of an important variable (internal validity), less than ideal operationalization of constructs (construct validity), common-method variance (construct validity), and generalizing across people (external validity). Lack of causality can be dealt with by experimental designs, quasi-experimental designs, and causal modeling. Randomized experiments are regarded as the standard for determining cause-and-effect relationships. In a recent survey (Brutus, Gill, & Duniewicz, 2010), less than 20% of surveyed articles relied on an experimental design. Quasi-experiments can rule out many alternative hypotheses and provide some evidence for causality. Causal modeling provides an alternative way to test causal relationships with correlational data.

Suggestions for dealing with the omission of an important variable include using experimentation and conceptualizing and measuring variables that could act as potential confounds. Operationalization of a construct can be improved by including multiple operationalizations of the same construct and making use of valid and reliable measures. External validity (generalizing across people) can be dealt with by using a random or representative sampling, replication with different samples, and cross-level comparisons.

**Ethics in Psychological Research**

In the 1960s and 1970s, research ethics was a concern of many psychologists because of controversial studies that used deception and seemed to put participants at psychological harm (Darley & Latane, 1968; Latane & Darley, 1970; Milgram, 1963). Deception usually means trickery or lying to participants about some aspect of an experiment. Most psychological experiments are carried out in a laboratory situation and participants already know that some aspect of their behavior is being studied. Will individuals’ behavior change if participants have knowledge of what researchers really want to find? Could there be psychological harm to the participants if the researcher uses some form of deception? What if individuals participate in an experiment believing that they are going to be involved in a discussion of problems faced by incoming college students and leave, having learned that in the face of a contrived emergency, they did not rush to the aid of another student?

**Enforcing Ethical Standards**

As a result of concerns over the welfare of persons involved in experimental studies, the U.S. government developed regulations requiring all institutions seeking federal funding to establish institutional review boards (IRBs) for research involving human participants. These boards make sure that the welfare of human participants is protected (Hayes, 2003).

Today, any time researchers study humans, they must balance a need to know with the need to protect an individual’s rights and privacy. In
order to help researchers deal with ethical decisions, most major professional organizations have
developed *ethical guidelines*. According to the American Psychological Association (2002; 2010),

- Researchers must protect participants from physical and psychological harm. In research, the participant’s rights always come first (Sieber, 2000). No procedure should be used that may harm the individual either physically or psychologically. If harm seems inevitable, the researcher should find other means of obtaining the information or abandon the research.

- Researchers must obtain voluntary written informed consent from participants before their involvement in a study. Any time before, during, or after the research, individuals can withhold consent. Individuals need to be told the purpose of the research and the risks and benefits of participation. Participants must be able to understand what they are being asked to do. Researchers are now required to inform participants of the following (Smith, 2003a, 2003b):

  ✓ The experimental nature of the treatment
  ✓ The services that will or will not be available to the control group
  ✓ The means by which assignment to treatment and control groups will be made
  ✓ Available treatment alternatives if an individual does not wish to participate in the research or wishes to withdraw once the study has begun
  ✓ Compensation for or monetary costs of participating, including whether reimbursement from the participant or a third-party payer will be sought

- The use of deception in research is a heavily debated topic and as we saw above, several historically significant research studies have used deception in one form or another. Today, if deception is used, it must be justified and cause no harm. If a research project is reasonably expected to cause physical pain or severe emotional distress, psychologists are required to not deceive participants. Any deception that is an integral part of the research design needs to be explained to participants as soon as possible. Participants need to be provided an opportunity to obtain information about the nature, results, and conclusions of the research. Steps have to be taken to correct any misconceptions that individuals may have. Reasonable steps have to be taken to reduce or minimize any psychological or physical harm to participants.

- Participants’ privacy must be maintained. The participants need to know that information they share with the researcher and all research records will be kept confidential. Data collected must be coded in such a way that the individual cannot be identified. The American Psychological Association (2002) defines *test data* as “raw and scaled scores, client/patient responses to test questions or stimuli, and psychologists’ notes and recordings concerning client/patient statements and behavior during examinations” as well as “portions of test materials that include client/patient responses” (p. 14). As defined in standard 9.11, test materials are “manuals, instruments, protocols, and test questions or stimuli” (p. 14) and do not include test data. Psychologists must release the test data to clients and their designees when clients provide a written release.

If the researcher is working with children, the Society for Research in Child Development (2006) has issued a set of guidelines for use in research with children. The Society lists all its principles and guidelines on its website at http://www.srcd.org in the Ethical Standards for Research with Children section.
Up to date information concerning the ethics code for psychologists can be found at the American Psychological Association website: http://www.apa.org/ethics/. We will discuss the topic of ethics and ethical behavior as they concern the area of Human Relations in Chapter 11: Ethics in the Business World.

**Human Relations in Industry: A Psychological Perspective**

**Overview of Human Relations**

*Human Relations* refers to the study of human behavior in the organizational setting. There is an overriding philosophy that employees are an integral part of the success or failure of any organization and as such it is important to effectively incorporate the needs of the individual into the organizational objectives.

As part of this effective integration, the human behavior studied is concerned with interpersonal and intrapersonal behaviors and professional and personal behaviors. *Interpersonal behaviors* refer to how individuals interact with each other. For example, research has shown that employees at call centers with poor communication skills are able to solve their clients’ problems 45% of the time compared to 88% of the time for employees with good communication skills (Porter, 2007). *Intrapersonal behaviors* refer to how individuals view themselves. For example, research has shown that employees that are optimistic show increased levels of individual and organizational performance (Green Jr., Medlin, & Whitten, 2004). Professional behaviors are activities that employees engage in at work. *Professional behaviors* are skill sets that employers believe are necessary for their employees to succeed in their respective fields. For example, the executive secretary should be highly organized, be able to take the initiative on tasks, have effective communication skills, and have a high degree of information literacy. *Personal behaviors* are personal attributes that while not necessarily in the domain of an employer, have been shown to affect employees in organizations. For example, research has shown that high levels of personal debt are a key factor in employee absenteeism (Joo & Garman, 1998). As you can see with the examples, in many cases the employee behaviors studied can have a significant impact on organizational goals. Employers must therefore keep the needs and capabilities of their employees at the forefront of organizational policy if they want their organizations to succeed.

**Historical Roots**

The establishment of applied psychology (human relations) in business organizations did not occur in a vacuum. It evolved from a meeting of important social/cultural events and has roots in philosophy, psychology, and science (Koppes & Pickren, 2007).

The beginnings of laissez faire capitalism and industrialization in the 18th and 19th centuries throughout the Western world were noted for their rapid growth and general lack of concern for the plight of the worker. In his landmark 1832 study of working conditions in Manchester, England, Sir James Kay-Shuttleworth (1970) reported squalid and dangerous living and working conditions, malnutrition, child labor, long working hours, and numerous other consequences of the industrial revolution. Workers were seen as a means to an end and easily replaceable. This was the era of *Social*
**Darwinism** where the strong survived and the weak fell by the wayside. Darwin's emphasis on the variability between and among species that underlies natural selection served as a foundation for a science of work (Koppes & Pickren, 2007). For a number of years, the philosophy of workers as mere chattel prevailed, but this philosophy altered significantly over time.

In 1920, Robert Owen was called “the real father” of personnel administration (Hilgard, 1987). For Owen, in the early 19th century, profit would be increased if the employees worked shorter hours, were paid adequately, and were provided with sufficient food and housing. He refused to hire children under the age of 11. Owen encouraged his workforce to stay clean and sober and was progressive for the time (Frankel & Fleisher, 1920).

**Scientific Management**

At the beginning of the 20th century in the United States, Frederick Taylor and others began the first important change in how we conduct business. Taylor proposed a new management approach known as scientific management (Koppes & Pickren, 2007). Working as a manager, Taylor became interested in how to influence workers to be productive. He argued that his approach was scientific because he emphasized the use of the scientific method and empirical measurements to evaluate the effects of change. **Scientific management** was the first system to acknowledge the impact workers have on productivity and the first to try to change worker behavior and the working environment. Taylor’s approach focused on three main factors (Hoopes, 2003):

1. Breaking down a job into its most productive parts so that each worker would know the most effective way of doing his or her work
2. Creating a workplace that was streamlined, efficient, and best allowed workers to conduct their jobs efficiently
3. Trying to motivate workers through the creation of skill positions with differing pay grades and the opportunity to move upwards

Frank Gilbreth had worked with Taylor and became well-known for his study of bricklaying (Gilbreth, 1909). He found that he could reduce the number of movements in laying a brick from 18 to 5, and the number of bricks laid could be increased from 120 to 350 per man per hour (Hilgard, 1987). Gilbreth collaborated with his wife, Lillian M. Gilbreth, on a number of studies (Spriegel, 1953). They developed a chart by which movements could be analyzed with the aid of an analog shorthand notation system. The Gilbreths used time and motion studies to investigate and design work to improve efficiency (Koppes & Pickren, 2007). After the death of her husband, Lillian Gilbreth continued to work as an industrial engineer, managed the consulting firm established by her husband, and raised 12 children (Hilgard, 1987).

While the immediate payoff from scientific management was increased productivity, the benefits were short-lived. According to Koppes and Pickren (2007), the primary
importance of Taylor’s and the Gilbreths’ work may have been its programmatic nature and its suggestions of new possibilities for the study of industrial organization and productive. It took a combination of changing societal values and the pioneering work of Mary Parker Follett and Elton Mayo to fundamentally change human relations into the field we see today.

The changing societal values of the early 20th century stressed a much more participatory sense of democracy than had previously existed. Throughout the Western world, the previously unheard from masses were gaining a political voice. The concerns of workers, women, and minorities were increasingly voiced. This was the beginning of the slow change that has radically changed our view of the role workers play in society.

Adding to the societal changes was the work of Follett and Mayo. Mary Parker Follett was a member of the Boston aristocracy who advocated for the right of workers to be involved in helping make the decisions that involved them and stressed that management should work to maintain a positive workplace for all employees of a business (Davis, 1997). She set forth an important foundation for human relations. Follett taught three basic concepts (Metcalf & Urwick, 1942):

- Workers should be allowed to be involved in decisions affecting them
- The workplace is dynamic—it is constantly changing
- The main job of managers at all levels is to maintain positive relationships with workers

Elton Mayo was an Australian psychologist who moved to America after World War I and taught at Wharton and Harvard (Hoopes, 2003). He is known as the father of Human Relations. Mayo developed modern Human Relations theory while studying worker behavior at the Western Electric Hawthorn Works in Chicago from 1927 to 1932. The research conducted during the Hawthorne Studies has become a classic in the Human Relations field (Hilgard, 1987). Mayo (1930, 1960) found that workers at the factory had a tendency to increase their productivity under a wide variety of experimental circumstances (low light, bright light, breaks for food, differing pay scales, etc). Much has been written about the Hawthorne studies including a spirited discussion about the validity of the experiments conducted there, but Mayo believed that workers temporarily changed their behavior when they believed they were being observed. This behavior known as the Hawthorne Effect encouraged Mayo and others to realize that workers needed more than just wages to function productively. These studies led him to realize that workers were complex beings with attitudes and beliefs that could significantly affect their behavior.

The overall explanation of the Hawthorne Effect was that the workers in special settings came to know and like each other; human relations, group norms, status questions, and communication led to altered production. The great irony of Mayo’s findings is that while he was developing a theory that would dramatically change the dominant perspective of the time, the Western world was experiencing a great depression and World War II. In both instances, the needs of workers were given little attention. It took a number of years after the war for business and industry to change the autocratic scientific management philosophy.

Most psychologists found the general claims made for the Hawthorne research by Mayo to be congenial (Hilgard, 1987). However, Landsberger (1958) reviewed 19 journal articles and three critical book reviews published between 1936 and 1955, all attacking the studies. Franke and Kaul (1978) performed a careful statistical analysis of the original data sheets. They found that 90% of the variance in the effects used as criteria could be accounted for on the basis of management discipline, the economic depression, and scheduled rest periods. They also found no support for the much stressed supervisory and social interactions.
Following the Hawthorne Studies, work motivation theories were formulated and attempts were made to measure job satisfaction (Koppes & Pickren, 2007).

**Human Engineering and Human Performance Psychology**

According to Koppes and Pickren (2007), psychologists were ready to respond to new challenges associated with World War II. The Army General Classification Test (AGCT) was developed, situational stress tests were created, and the selection and training of pilots were implemented. World War II brought an emphasis on machine design such that in the selection and training of operators and troubleshooters, both the machine and the user were kept in mind. World War II also provided a tipping point for theories in American human sciences (Isaac, 2009). The maelstrom of wartime problem-oriented interdisciplinary research plunged scientists into a new world of concepts, methods, and research practices. The *Annual Review of Psychology* used the expression *engineering psychology* for the first four reviews of the area between 1958 and 1966. Then in 1976, it changed the title of the review to *Engineering Psychology and Human Performance* before beginning a plan in which a chapter on human performance would appear at four-year intervals, and other areas of industrial and organizational psychology would be reviewed in intervening years.

The general orientation to the work on the design of equipment during World War II was provided in a textbook entitled *Applied Experimental Psychology* by Chapanis, Garner, and Morgan (1949). The term *human engineering* was made prominent by the *Handbook of Human Engineering Data* (1949/1952) prepared by the Tufts College Institute for Applied Experimental Psychology and published by the Special Devices Center of the Office of Naval Research. A statement of the aims of human engineering was given in the first chapter of the 1952 revision: “Specifically, human engineering attempts to analyze the factors that help a man to do his job with speed and accuracy. These, with the quality or performance of the machine, help determine the efficiency of the man-machine system. What human engineering is trying to do is to eliminate making an operator the bottleneck in the man-machine system” (Tufts College Institute of Applied Experimental Psychology, 1952, p. 1). According to this book, applied psychology ought to refer to the application of basic experimental psychology to practical problems. The advances made during World War II were included in the applications chapter of each part of the text.

Edward Demming, who created the management model *Total Quality Management* (TQM) in the 1940s and 1950s, was ahead of his time in applying more democratic principles. Workers were included as integral members of a team whose efforts were worthy of respect and consideration (Fernandez, 1994). TQM stressed the process of the organization where all employees were involved in the continuous improvement of the production of goods and services. Demming put his model to work in Japan in the 1950s, but it was not until the 1980s that the model was applied to American businesses.

This more democratic emphasis has transformed Human Relations over the past thirty years. While TQM has evolved, the idea inherent
in TQM is still prevalent. Human Relations still emphasizes utilizing the capabilities of individual workers so that they all work towards the common good of the organization. Never before have the opinions, ideas, and talents of the worker been so closely monitored and used in the business model. Never before have the needs of the worker been so closely monitored and catered to in the business model.

Up until the 1960s, the slow change in how employees were viewed by management mirrored the changes in society. Change was slow yet emphasized more democratic principles. Beginning in the 1960s, we saw a rapid pace of change in society with an emphasis on the increasing impact of the middle classes in influencing societal trends. This was true in Human Relations. With the rise of humanistic psychology and the perception that individual growth is as important as the greater good, the field of Human Relations helped create a philosophy of business never before seen in the workplace.

During the 1960s and 1970s, American society saw a new generation of employees who questioned the authority of organizations and created interest in democracy and autonomy in the workplace (Koppes & Pickren, 2007). Research was begun in areas of communication, conflict management, socialization, organizational climate and culture, and group/team development and maturation. Methods for facilitating organizational change and development were created. The Civil Rights Act (CRA) of 1964, Title VII, prohibited discrimination in employment because of race, color, religion, sex, or national origin. This and the Age Discrimination in Employment Act in 1967 influenced developments in fair employment practices and test validation (Koppes & Pickren, 2007).

Concerns about productivity and quality in the United States developed during the 1980s (Koppes & Pickren, 2007). A global and diverse workforce became commonplace due to the fall of communism and the passage of the North American Free Trade Act. The Americans with Disabilities Act (ADA) of 1990 is considered to be one of the most significant pieces of legislation to influence the work of psychologists in organizational settings (Koppes & Pickren, 2007).

A number of developments have occurred in organizational psychology since the 1990s, and many will be presented in subsequent chapters (e.g., stress management, work groups, organizational change management, creativity and leadership).

The Use of Psychological Research in Human Relations

Generally, Human Relations is studied through pure and applied research. Pure research (a.k.a. basic research) is research that is conducted mainly in universities and research institutes. It is conducted primarily for the pursuit of knowledge. It usually aims to solve problems of a theoretical nature that have little direct impact on current behavior, performance, or policy decisions. In the business arena pure research may involve a researcher for an advertising agency who is studying the results of the use of coupons versus rebates as demand stimulation methods. The researcher is not interested in a specific instance or a specific client product,
but is interested in all campaigns that have used coupons or rebates. Researchers might be interested in the influence on productivity of compensation systems that pay by piece work versus salary plus commission. *Applied research* is conducted in universities and research institutes as well as in consultancies, business, and industry. It is conducted primarily as a means to solve practical, current problems. Applied research is conducted to reveal answers to specific current questions that are related to an organization’s action, performance, or policy needs. Applied researchers might be involved in a decision about whether a firm’s new safety training program should be conducted through online seminars or with online quizzes, or whether participants should be brought to a corporative headquarters to be instructed in a classroom setting.

Both applied and pure research are problem solving based, but applied research is directed more to making immediate managerial decisions. This problem solving emphasis is paramount in business research.

**Applied Research**

In the business world, there is an interest in research approaches that can inform policy and practice and lead to social action. The trend in business toward action research has occurred in response to a growing frustration with the lack of relevance of traditional research findings and an increasing desire among many scientists to conduct research that has social relevance. Action-oriented models include action research and participatory research. These research approaches have similar agendas and share common assumptions and methodological strategies.

*Action research* is perhaps the most widely used form of action-oriented research. Kurt Lewin (1946) is generally recognized as having introduced this model of research. He described an approach that involved the researcher trying to change the system while at the same time generating critical knowledge about it. Action research has been most often associated with private industry and organizational development. Common to all forms of action research is the agenda of producing research that can address practical concerns. Action research is always conducted in the setting where the problem is encountered, and the focus is usually on a single case or unit. Action researchers must also be sensitive to the needs and perspectives of their nonresearcher collaborators, selecting methods and measures that have a high degree of face validity and practical utility (Small, 1995).

*Participatory research* is a research process that attempts to break down the distinction between the researchers and the researched. Research is seen not only as a process of creating knowledge, but simultaneously, as education and development of consciousness, and of mobilization for action (Gaventa, 1988). The central feature of participatory research is the participation of members of the organization in the research process. Organizational members are full partners in the research process and are usually referred to as co-researchers. The problem to be studied and the research questions that follow originate with the individuals whose interests will be affected by the research (Park, 1993).

In participatory research, the participants are primarily responsible for the design of the study, including deciding how the data will be collected, analyzed, and eventually disseminated. The researcher plays an important role in the selection of methods by presenting the various options along with their strengths and weaknesses.
Table 1 compares the academic, applied, and action models of research.

**Table 1**

**Comparison of Academic, Applied, and Action Research Models**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Academic Model</th>
<th>Applied Model</th>
<th>Action Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problem Source</strong></td>
<td>Theory, technical literature, or curiosity</td>
<td>Real-world problems facing client</td>
<td>Real-world problems with societal implications</td>
</tr>
<tr>
<td><strong>Goal(s)</strong></td>
<td>To determine connections between variables and contribute to theory</td>
<td>To solve immediate problem</td>
<td>To solve an immediate problem, contribute to theory, and improve research methodology</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>Laboratory, high degree of control</td>
<td>Laboratory or field, high degree of control</td>
<td>Field, low degree of control</td>
</tr>
<tr>
<td><strong>Subjects</strong></td>
<td>College students</td>
<td>Individuals with some connection to problem</td>
<td>Individuals directly involved with the problem</td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
<td>Graduate students and professional researchers</td>
<td>Professional researchers</td>
<td>Direct involvement of lay participants as coresearchers</td>
</tr>
<tr>
<td><strong>Data Analysis</strong></td>
<td>Quantitative approach; clear separation between independent and dependent variables</td>
<td>Quantitative approach; clear separation between independent and dependent variables</td>
<td>Quantitative and qualitative analysis; blurring of dependent and independent variables</td>
</tr>
<tr>
<td><strong>Distribution</strong></td>
<td>To scientific journals</td>
<td>To client; information often proprietary</td>
<td>To client and related agencies, with likely release to media, and other action researchers</td>
</tr>
</tbody>
</table>
Moving On

While we have seen that Human Relations today has an eclectic and broad-based approach to creating a viable and productive work environment, this was not always the case, as noted above. Beginning with the next chapter, we will begin looking at the current and future trends and challenges to the area of Human Relations in Business. In Chapters 2 through 12, we will discuss the workplace in the light of individual and group motivations, effective communication and its importance to success in business and industry, making creative decisions and setting goals, handling and resolving conflict, dealing with ethical concerns, and managing and leading in a changing and global environment.

Summary

Psychology can be defined as the scientific study of behavior and its application to the world around us. Probably the most important aspect of psychology is that it is a science. Behavior can be viewed from two main perspectives—that which can and that which cannot be seen. We can call these behaviors overt and covert.

The scientific method is the means by which science is applied. It allows us to utilize a systematic means by which we answer questions regarding behavior. The first area of research is called descriptive research. Case studies, naturalistic observation, psychological tests, and surveys are examples of descriptive research. A second area of research is correlational research. Correlational research describes the relationship between two or more variables. The third and final area of research is called experimental research. This pinnacle of psychological research allows experimenters to control the situation being studied.

As a result of concerns over the welfare of persons involved in experimental studies, the U.S. government developed regulations requiring all institutions seeking federal funding to establish institutional review boards (IRBs) for research involving human participants. In order to help researchers deal with ethical decisions, most major professional organizations have developed ethical guidelines.

Human Relations refers to the study of human behavior in the organizational setting. Behavior studied is concerned with interpersonal and intrapersonal behaviors and professional and personal behaviors. For a number of years, the philosophy of workers as mere chattel prevailed, but with the advent of scientific management, this philosophy altered significantly. In 1920, Robert Owen was called “the real father” of personnel administration.

At the beginning of the 20th century in the United States, Frederick Taylor and others began the first important change in how we conduct business. Scientific management was the first system to acknowledge the impact workers have on productivity and the first to try to change worker behavior and the working environment. Mayo investigated the Hawthorne effect. The overall explanation of the Hawthorne Effect was that the workers in special settings came to know and like each other; human relations, group norms, status questions, and communication led to altered production. World War II brought an emphasis on machine design such that in the selection and training of operators and troubleshooters, both the machine and the user were kept in mind.
Human Relations is studied through pure and applied research. Pure research (a.k.a. basic research) is research that is conducted mainly in universities and research institutes. Applied research is conducted in universities and research institutes as well as consultancies, business, and industry. Action research is perhaps the most widely used form of action-oriented research. Participatory research is a research process that attempts to break down the distinction between the researchers and the researched.

Case Study: Strategic Uses of Research Methods

The emphasis on research in psychology has been a part of the science from its beginning in the mid to late 1800s. However, as new areas of psychology evolved, research methods had to be adopted in order for discoveries to occur. In some cases, basic premises had to be discarded in order for research to be implemented.

When psychologists began to be interested in creativity in the mid 1900s, this area of concern was largely the province of humanists and philosophers who, in many cases, felt that creativity could not be studied scientifically since it was a process, and to break it into component parts would destroy the whole. This basic premise had to be discarded by psychologists if progress were to be made in the understanding of creativity. So how did this happen?

In 1950, the president of the American Psychological Association, J. P Guilford, delivered his keynote address on the topic of creativity, thus making it a “socially acceptable” topic for research within the field. The first major effort to study creativity from the scientific point of view came about during this period. Anne Roe, a psychologist on the faculty at Harvard, decided to interview and administer a number of personality and intelligence tests to 64 of the most eminent researchers in the United States in the fields of biology, physics, psychology and anthropology. She had no control groups, and her methodology was simply to travel around the country and meet with these scientists. She was aided in this study by her husband, who himself was a well-known scientist. She found the scientists all had certain personality and intellectual characteristics. Although this was a ground-breaking study, Dr. Roe had no control groups with which to compare her findings.

Another study published during this period was the now-famous study of gifted men published by Lewis Terman in which he followed the lives of these men from childhood. This longitudinal study brought to light a number of interesting findings but, again, with no control group.

Another interesting study during this period was conducted by a husband and wife team, George and Mildred Goertzel. The authors read all of the biographies of famous men and women of the 20th century that were contained in a prominent New Jersey library. They then identified the significant commonalities in the childhood experiences of these people. This was a totally different approach, but once again, there was no control group.

Realizing the importance of comparing creative persons with matched controls, this experimental approach was finalized in the 1960s by Jack Chambers. He studied a sample of over 400 psychologists and chemists, matched on the bases of academic field, education (all
Ph.D.s), sex, institution where they took their degrees, and opportunities to do research. One-half were nationally eminent research scientists; the other half had not produced any research of significance. These individuals completed personality tests and provided biographical data. The findings supported Roe’s original study and added to it while authenticating to the scientific world that creativity could be studied and valid results obtained through appropriate scientific methods.

**Reflection**

1. Which of the above methods would fit best in a business and industry setting?

2. See if you can find these studies on the web, and think about how they could have been improved.

(J. A. Chambers, personal communication, May 28, 2008)

**Terms and Concepts**

| Psychology                        | science                        | Overt behaviors | Covert behaviors | scientific method | descriptive research | Case Studies | Naturalistic Observation | Psychological Tests | Surveys | sampling errors | semantic errors | correlational research | experimental research | Hypothesis | Independent Variable | Dependent Variable | Experimental Group | Control Group | Statistically Significant Difference | Meta-analysis | Deception | institutional review boards (IRBs) | ethical guidelines | Human Relations | Interpersonal behaviors | Intrapersonal behaviors | Professional behaviors | Personal behaviors | Social Darwinism | Scientific management | Hawthorne effect | Pure research | Applied research | Action research | Participatory research |


