

# Introduction to Industrial Psychology

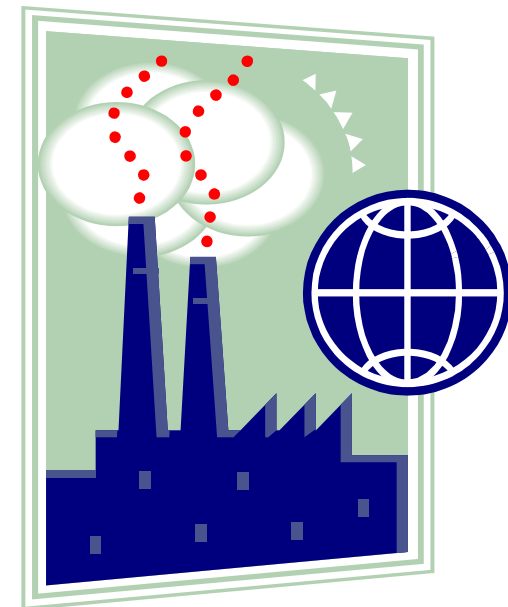


# What is I/O Psychology?

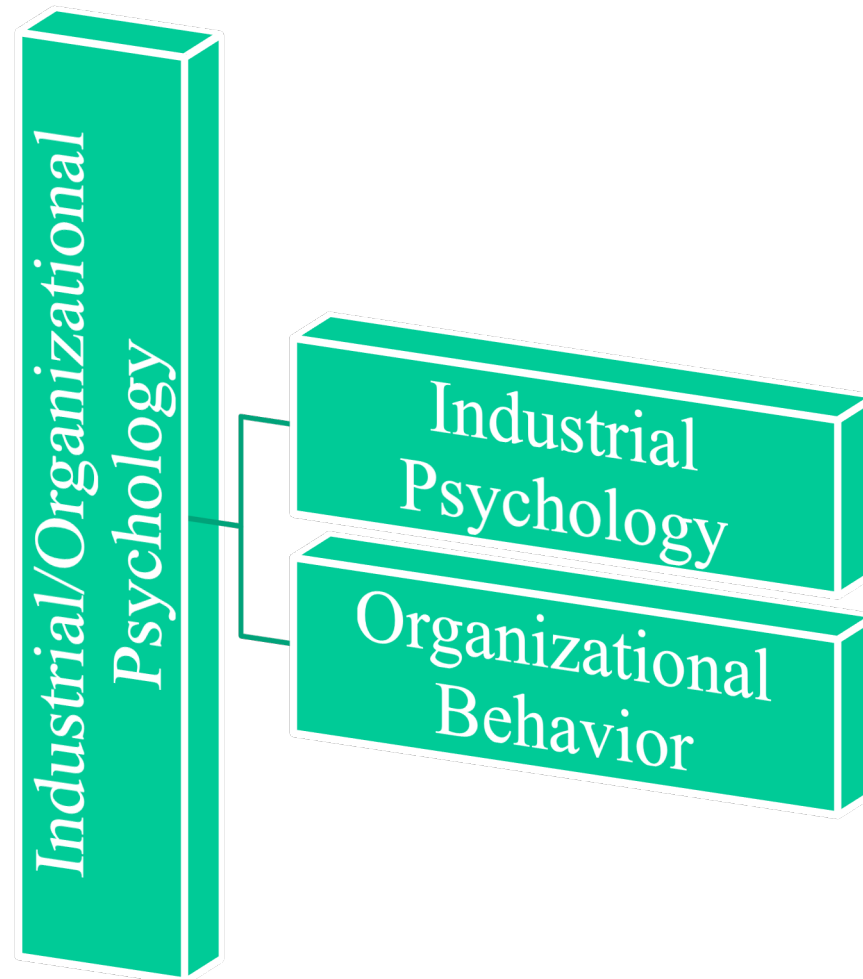
- A branch of psychology that applies the principles of psychology to the workplace (Aamodt, 2007)
- The specialty area within the broad field of psychology that studies human behavior in work settings (Riggio, 2000)
- Industrial-organizational psychologists are able to apply psychological theories to explain and enhance the effectiveness of human behavior in the workplace (Canadian Psychological Association)

# Fields of I/O Psychology

- Personnel Psychology
  - Employee Selection & Job Analysis
  - Performance Evaluation
- Organizational Behavior
- Training & Development
- Human Factors/Ergonomics
- Vocational/Career Counseling
- Industrial Relations
- Consumer Psychology



# Evolution of this Course



# Industrial/Organizational Psychology



## Industrial Psychology

- Research Methods
- Job Analysis
- Legal issues in Employee Selection
- Recruiting & Interviewing
- Psychological Testing
- Performance Evaluation
- Training Systems
- Design of Workspaces
- Work Motivation
- Job Stress

## Organizational Behavior

- Workplace Diversity
- Individual Differences
- Organizational Structure, Culture, Change
- Communication
  - Interpersonal & Organizational
- Leadership & Management Style
- Work Teams & Group Dynamics
- Decision Making & Problem Solving
- Power, Politics, Conflict, Negotiation
- Job Satisfaction

# History of I/O Psychology

## 1900 - 1920

1903	Walter Dill Scott publishes <i>The Theory of Advertising</i>
1911	Frederick Taylor publishes <i>Principles of Scientific Management</i>
1913	Hugo Munsterberg publishes <i>Psychology and Industrial Efficiency</i>
1917	<i>Journal of Applied Psychology</i> first published

# History of I/O Psychology

## World War I

- Selection of Soldiers
  - Army Alpha
  - Army Beta
- John Watson developed tests for pilots
- Henry Gantt increased cargo ship efficiency

# History of I/O Psychology

## 1920 - Present

1921	First Ph.D. in I/O Psychology awarded to Bruce Moore and Merrill Ream at Carnegie Tech
1932	First I/O text book written by Morris Viteles
1933	Hawthorne Studies published
1930s	American Association for Applied Psychology Established; Testing corporations; professional journals
1940-45	World War II
1946 – Present	Civil Rights Act, EEOC, Diversity in the workplace, Computer Revolution, Increasing specialization within the profession.



# The Hawthorne Studies



# The Hawthorne Studies

- Workers' feelings affect their work behavior
- It was a field *experiment*, demonstrated the value of research
- Worker perceptions of reality more important than objective reality
- Discovery of the “Hawthorne Effect”

# Careers in I/O Psychology

- Many Routes to Career, but plan on going to graduate school.
- Master's Degrees versus PhD provide different opportunities.
- A degree in I/O Psych, human resources, Labor & Industrial Relations, or Business Administration may all lead to the same career.

# Employment Settings of I/O Psychologists

Employment Setting	Highest Degree	
	M.A.	Ph.D.
Education	0.8	40.0
Private sector	44.0	23.3
Public sector	10.5	8.2
Consulting	37.3	25.0
Other	7.4	3.5

# Difference Between I/O and MBA Programs

Typical I/O Courses	Typical MBA Courses
Statistics	Statistics
Experimental methodology	Business research
Psychometric theory	Organizational behavior
Employee selection and placement	Administrative policy
Organizational psychology	Managerial economics
Employee training and development	Financial management
Performance appraisal	Marketing management
Job analysis	Managerial accounting

# I/O Graduate Programs

Characteristic	Degree	
	M.A.	Ph.D.
Average GRE Score	1,084	1,237
Average GPA	3.41	3.58
Years to complete	2	5
Internship	Yes	Yes
Dissertation	No	Yes

# Research Methods in Industrial Psych

- Experimental Methods
  - Random Assignment of Subjects
  - Manipulation of Independent Variable(s)
  - Measurement of Dependent Variable(s)
- Validity of Experiments
  - Internal Validity:
    - Is experiment free of confounding?
  - External Validity:
    - Can the results be generalized to other situations?



# Research Methods in Industrial Psych

- Correlational Methods:
  - No manipulation of variables
  - Measures naturally occurring association between two or more variables
  - Cannot inform researcher about cause-effect relationship between variables





# Research Methods in Industrial Psych

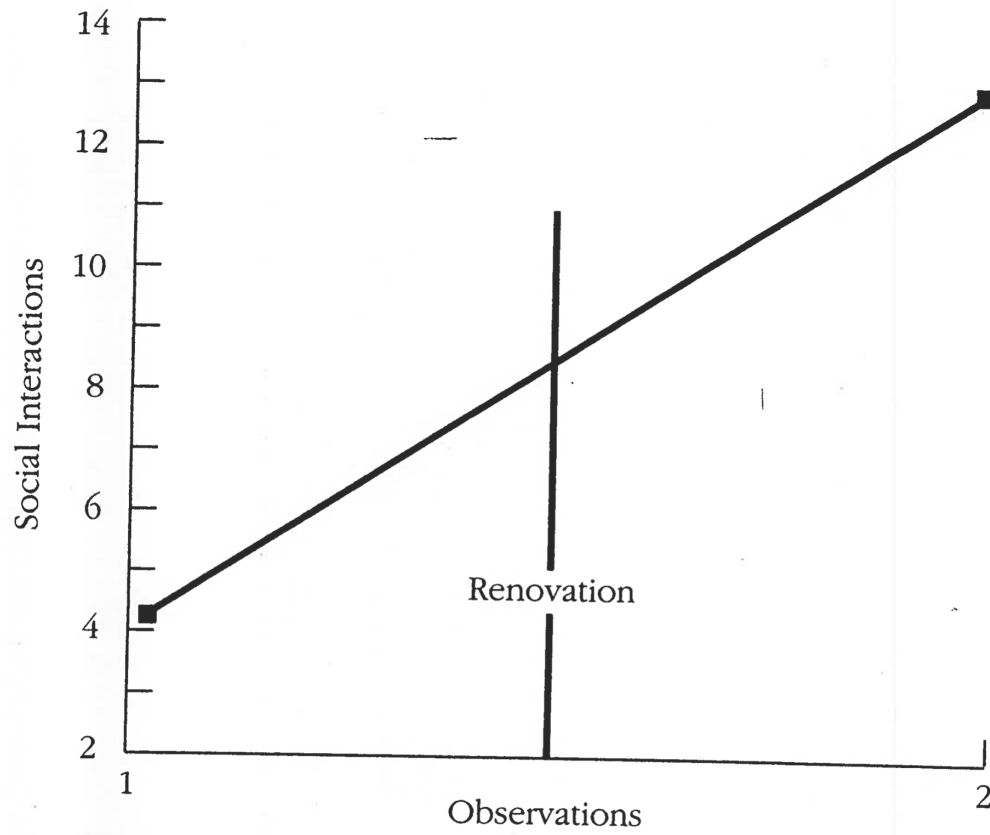
- Quasi-Experimental Methods:
  - Use when some aspects of experimentation are possible but not all
  - More common in I/O psych than in many other areas of psychology



# Quasi-Experimental Designs

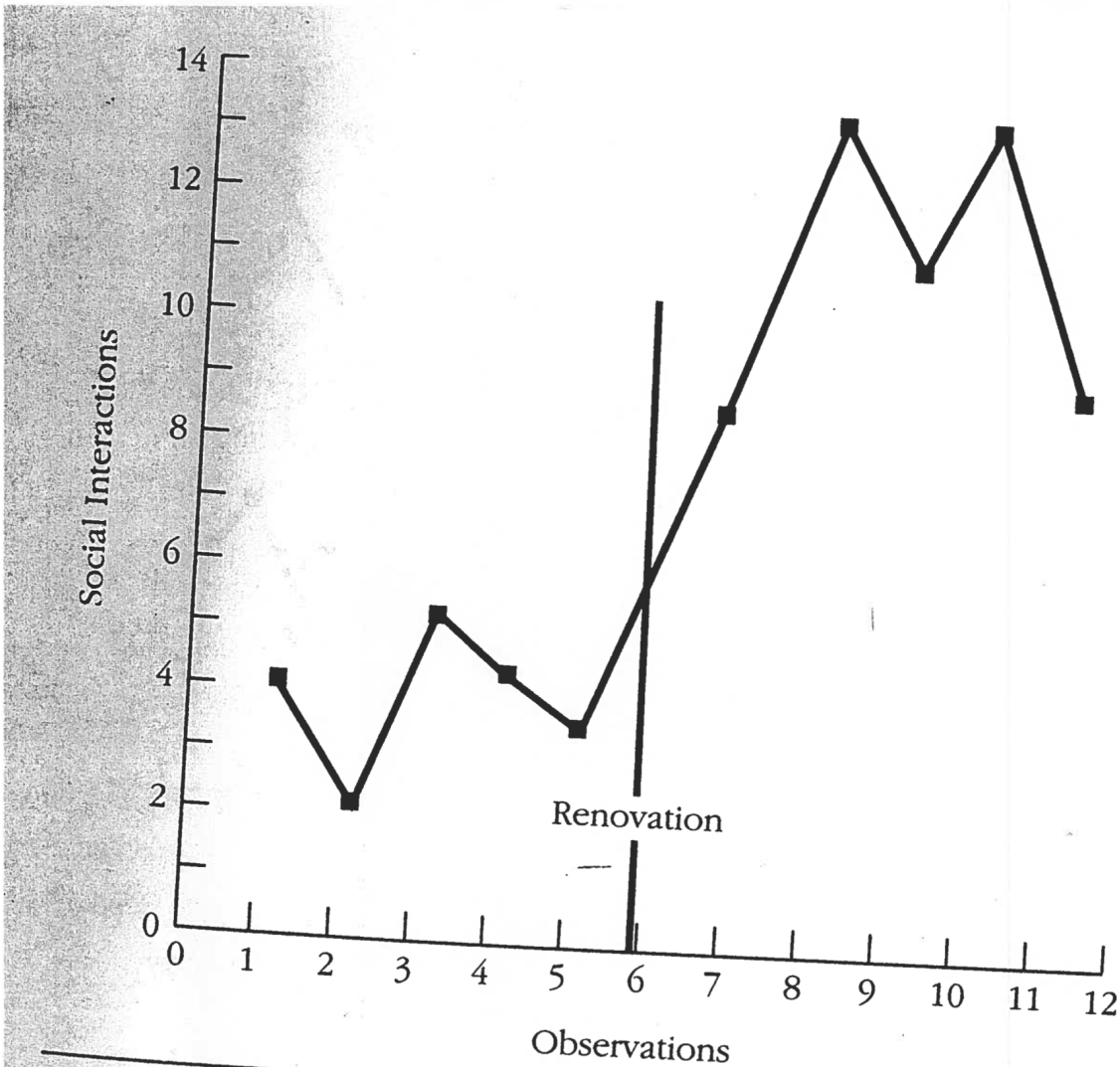
- Time series Design
- Interrupted Time Series Design
- Multiple Time series Design
- Non-Equivalent Before-After Design
- Solomon Four-Groups Design

# Simple Time Series Design



**FIGURE 1-3** Data from a simple time series study

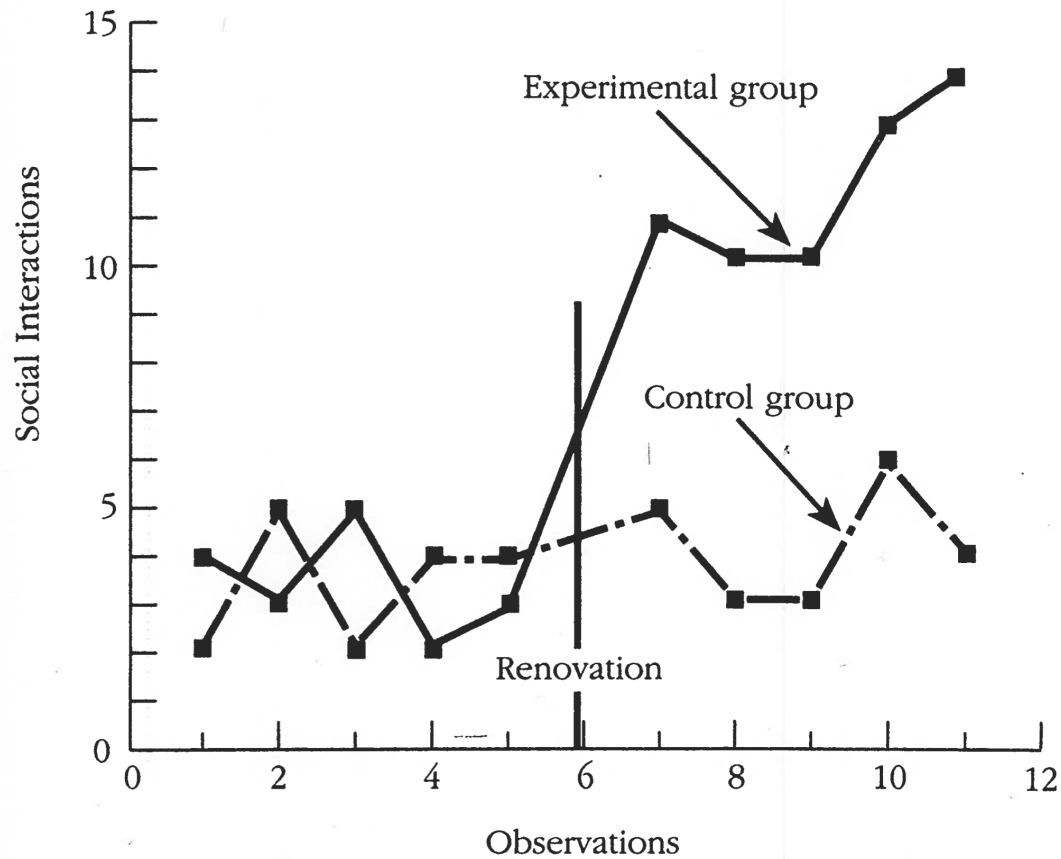
# Interrupted Time Series Design



**FIGURE 1-4** Data from an interrupted time series study

# Multiple Time Series Design

## CHAPTER 1



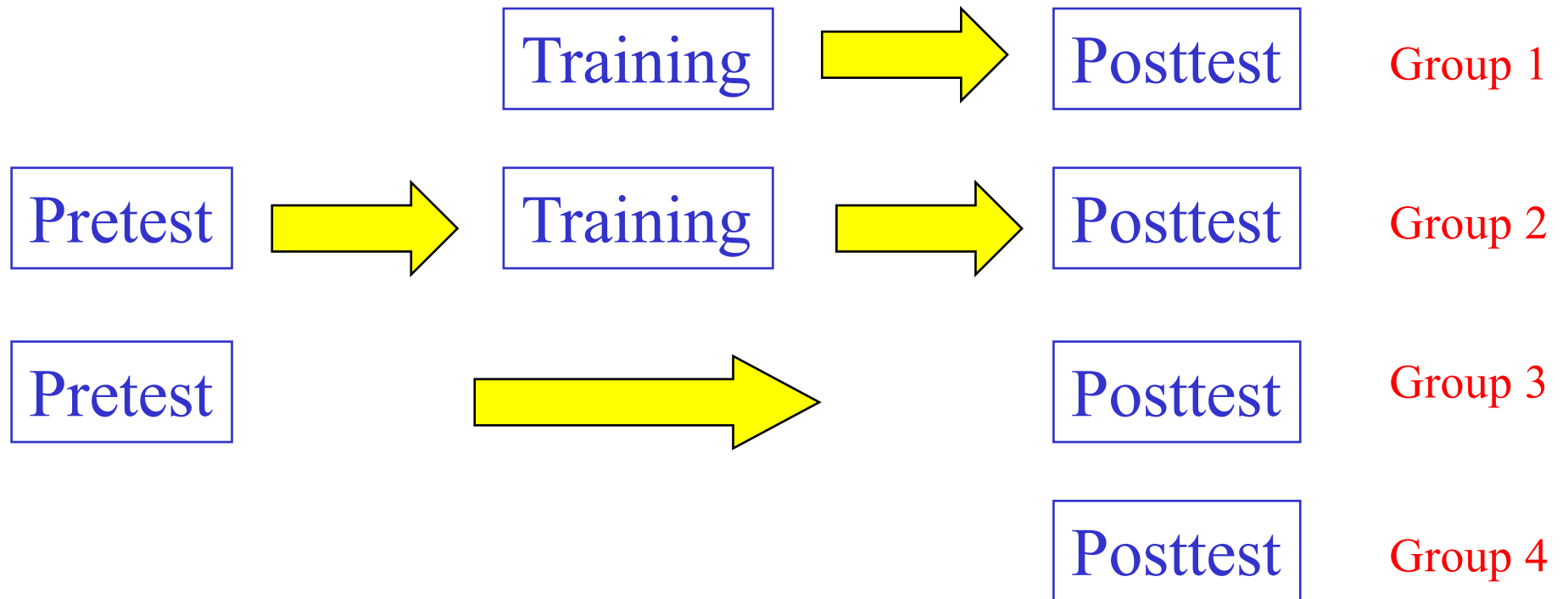
**FIGURE 1-5** Data from a multiple time series study

# Non-Equivalent Before-After Design

	<u>PreTest</u>	<u>Treatment</u>	<u>Post-Test</u>	<u>Difference</u>
<b>Exp Group</b>	<b>O<sub>1</sub></b>	<b>X<sub>1</sub></b>	<b>O<sub>2</sub></b>	<b>O<sub>1</sub> - O<sub>2</sub></b>
<b>Control Group</b>	<b>O<sub>1</sub></b>	<b>X<sub>2</sub></b>	<b>O<sub>2</sub></b>	<b>O<sub>1</sub> - O<sub>2</sub></b>

# Evaluation of Training Results

## Solomon four-groups design



# Research Methods in Industrial Psych

- Surveys & Interviews
- Archival Research
- Meta-Analysis
- Case Studies





# Choosing the Right Career





A person in a light blue shirt and dark pants is walking away from the camera on a paved road that curves into the distance. The background shows a hazy landscape under a sunset sky. The text 'CHOOSING THE RIGHT CAREER PATH' is overlaid on the image. 'CHOOSING THE RIGHT' is in white, and 'CAREER PATH' is in red with a red underline.

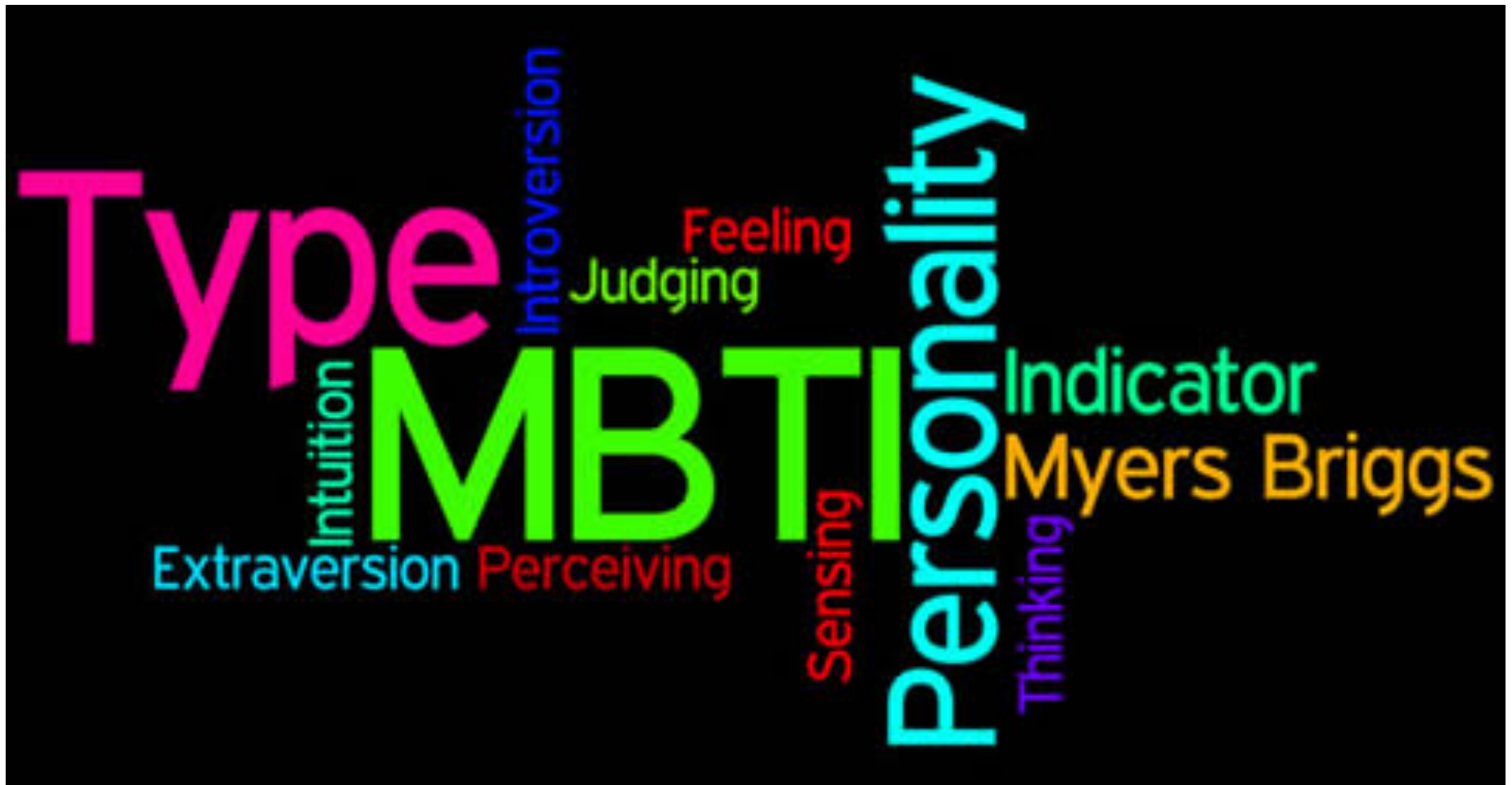
# CHOOSING THE RIGHT CAREER PATH

The long-term misery of choosing badly

# Vocational Preference Inventories

- Strong Interest Inventory (SII)
- Kuder Preference Record
  - Forced choice of 3 activities: most liked, least liked, middle
- Myers-Briggs Type Inventory (MBTI)
- Holland's Environment-Type Theory (VPI)

# The Myers-Briggs Type Indicator



# Myers-Briggs Type Indicator (MBTI)

- There are Four Basic Functions
  - Two Kinds of Perception
    - Sensing (S) – Relies on observation, memory for detail
    - Intuition (N) – Relies on insight, deeper meaning, more imaginative
  - Two Kinds of Judgment
    - Thinking (T) – Logic, Objectivity, cause-effect, seeks rational order
    - Feeling (F) – Value driven, subjective, seeks harmony, sensitive to people rather than technical details of problem

# Myers-Briggs Type Indicator (MBTI)

- There are Four Basic “Attitudes toward Life”
  - Extraversion (E) vs. Introversion (I)
    - Action-oriented & sociable vs. focused on inner ideas, thoughtful detachment, solitude/privacy
  - Judging (J) vs. Perceiving (P)
    - Spontaneous & Curious vs. Planning & Organizing

# The Myers-Briggs Type Indicator

## Four MBTI Dichotomies

Where do we get our energy?

**Extraversion**

**Introversion**

How do we take in information?

**Sensing**

**Intuition**

How do we make decisions?

**Thinking**

**Feeling**

How do we organize our world?

**Judging**

**Perceiving**



# The Myers-Briggs Type Indicator

## What's Your Personality Type?

Use the questions on the outside of the chart to determine the four letters of your Myers-Briggs type.  
For each pair of letters, choose the side that seems most natural to you, even if you don't agree with every description.

### 1. Are you outwardly or inwardly focused? If you:

- Could be described as talkative, outgoing
- Like to be in a fast-paced environment
- Tend to work out ideas with others, think out loud
- Enjoy being the center of attention

then you prefer

**E**

Extraversion

- Could be described as reserved, private
- Prefer a slower pace with time for contemplation
- Tend to think things through inside your head
- Would rather observe than be the center of attention

then you prefer

**I**

Introversi

### 2. How do you prefer to take in information? If you:

- Focus on the reality of how things are
- Pay attention to concrete facts and details
- Prefer ideas that have practical applications
- Like to describe things in a specific, literal way

then you prefer

**S**

Sensing

- Imagine the possibilities of how things could be
- Notice the big picture, see how everything connects
- Enjoy ideas and concepts for their own sake
- Like to describe things in a figurative, poetic way

then you prefer

**N**

Intuition

**ISTJ**  
Responsible, sincere, analytical, reserved, realistic, systematic. Hardworking and trustworthy with sound practical judgment.

**ISFJ**  
Warm, considerate, gentle, responsible, pragmatic, thorough. Devoted caretakers who enjoy being helpful to others.

**INFJ**  
Idealistic, organized, insightful, dependable, compassionate, gentle. Seek harmony and cooperation, enjoy intellectual stimulation.

**INTJ**  
Innovative, independent, strategic, logical, reserved, insightful. Driven by their own original ideas to achieve improvements.

**ISTP**  
Action-oriented, logical, analytical, spontaneous, reserved, independent. Enjoy adventure, skilled at understanding how mechanical things work.

**ISFP**  
Gentle, sensitive, nurturing, helpful, flexible, realistic. Seek to create a personal environment that is both beautiful and practical.

**INFP**  
Sensitive, creative, idealistic, perceptive, caring, loyal. Value inner harmony and personal growth, focus on dreams and possibilities.

**INTP**  
Intellectual, logical, precise, reserved, flexible, imaginative. Original thinkers who enjoy speculation and creative problem solving.

**ESTP**  
Outgoing, realistic, action-oriented, curious, versatile, spontaneous. Pragmatic problem solvers and skillful negotiators.

**ESFP**  
Playful, enthusiastic, friendly, spontaneous, tactful, flexible. Have strong common sense, enjoy helping people in tangible ways.

**ENFP**  
Enthusiastic, creative, spontaneous, optimistic, supportive, playful. Value inspiration, enjoy starting new projects, see potential in others.

**ENTP**  
Inventive, enthusiastic, strategic, enterprising, inquisitive, versatile. Enjoy new ideas and challenges, value inspiration.

**ESTJ**  
Efficient, outgoing, analytical, systematic, dependable, realistic. Like to run the show and get things done in an orderly fashion.

**ESFJ**  
Friendly, outgoing, reliable, conscientious, organized, practical. Seek to be helpful and please others, enjoy being active and productive.

**ENFJ**  
Caring, enthusiastic, idealistic, organized, diplomatic, responsible. Skilled communicators who value connection with people.

**ENTJ**  
Strategic, logical, efficient, outgoing, ambitious, independent. Effective organizers of people and long-range planners.

### 3. How do you prefer to make decisions? If you:

- Make decisions in an impersonal way, using logical reasoning
- Value justice, fairness
- Enjoy finding the flaws in an argument
- Could be described as reasonable, level-headed

then you prefer

**T**

Thinking

- Base your decisions on personal values and how your actions affect others
- Value harmony, forgiveness
- Like to please others and point out the best in people
- Could be described as warm, empathetic

then you prefer

**F**

Feeling

### 4. How do you prefer to live your outer life? If you:

- Prefer to have matters settled
- Think rules and deadlines should be respected
- Prefer to have detailed, step-by-step instructions
- Make plans, want to know what you're getting into

then you prefer

**J**

Judging

- Prefer to leave your options open
- See rules and deadlines as flexible
- Like to improvise and make things up as you go
- Are spontaneous, enjoy surprises and new situations

then you prefer

**P**

Perceiving

# The Myers-Briggs Type Indicator

## Popular Career Choices by Type

<p><b>ISTJ (14%)</b> <i>Take Your Time and Do It Right</i></p> <p>Steelworker Veterinarian Police / Detective Accountant / Auditor Manager / Administrator Military Officer Engineering Technician Efficiency Analyst Estate Planner</p>	<p><b>ISFJ (11%)</b> <i>On My Honor, To Do My Duty</i></p> <p>Physician: Family, GP Dietician / Nutritionist Teacher: Preschool, Elem. Guidance Counselor Librarian Nurse Optician Clerical Supervisor Probation Officer</p>	<p><b>INFJ (2%)</b> <i>Catalyst for Positive Change</i></p> <p>Psychologist / Psychiatrist Clergy Novelist / Playwright Human Resources Teacher: English/Drama Educational Consultant Social Worker Mediator Speech Pathologist</p>	<p><b>INTJ (3%)</b> <i>Competence + Independence=Perfection</i></p> <p>Computer Programmer College Professor Chemical Engineer Lawyer / Judge Architect Scientist: Management Consultant Strategic Planner Investment Banker</p>
<p><b>ISTP (6%)</b> <i>Doing the Best with What I've Got</i></p> <p>Farmer Construction Worker Pilot Computer Specialist Banker Intelligence Agent Park Ranger Engineer Police / Security</p>	<p><b>ISFP (6%)</b> <i>It's the Thought That Counts</i></p> <p>Administrative Assistant Fashion Designer Chef Physical Therapist Beautician Landscape Designer Storekeeper / Clerk Dental Assistant Bookkeeper</p>	<p><b>INFP (4%)</b> <i>Still Waters Run Deep</i></p> <p>Minister / Priest Musician / Composer Psychologist / Psychiatrist HR Development Educational Consultant Social Worker / Counselor Writer / Editor / Reporter Artist / Entertainer Teacher: Special Ed, Art</p>	<p><b>INTP (5%)</b> <i>Ingenious Problem Solvers</i></p> <p>Researcher Computer Programmer Chemist / Biologist Lawyer Financial Planner Mathematician Technical Consultant Artist / Photographer College Professor</p>
<p><b>ESTP (6%)</b> <i>Let's Get Busy!</i></p> <p>Paramedic / Firefighter Pro Athlete Auditor Field Sales Rep Optometrist Marketing Professional Promoter Stockbroker General Contractor</p>	<p><b>ESFP (7%)</b> <i>Don't Worry, Be Happy!</i></p> <p>Lifeguard / Rec. Attendant Child Care Worker Sales Representative Travel Agent Receptionist / Secretary Promoter / Fund-Raiser Respiratory Therapist Film Producer Waiter / Waitress</p>	<p><b>ENFP (7%)</b> <i>Anything's Possible</i></p> <p>Journalist Character Actor Marketing Consultant Advertising Director Corporate Trainer Teacher: Drama / Music Counselor / Psychologist Musician / Composer Photographer</p>	<p><b>ENTP (5%)</b> <i>Life's Entrepreneurs</i></p> <p>Politician Sales Manager Venture Capitalist Systems Analyst Market Researcher Strategic Planner Management Consultant Advertising Director Newscaster / Reporter</p>
<p><b>ESTJ (11%)</b> <i>Taking Care Of Business</i></p> <p>Teacher: Trade/Technical Project Manager School Administrator Factory Supervisor Executive Military Officer Public Official Bank Officer Insurance Agent</p>	<p><b>ESFJ (11%)</b> <i>What Can I Do For You?</i></p> <p>Nurse / Phys. Therapist Pediatric Medicine Teacher: K-12 Retail Owner / Operator Athletic Coach Flight Attendant Hairdresser Office Manager Home Economist</p>	<p><b>ENFJ (4%)</b> <i>The Public Relations Specialist</i></p> <p>Writer / Journalist Psychologist / Counselor Clergy / Priest Entertainer / Actor Marketing / Public Relations Recruiter Trainer / Consultant Teacher: College Physician: Family, GP</p>	<p><b>ENTJ (4%)</b> <i>Everything's Fine – I'm in Charge</i></p> <p>Executive / CEO Investment Broker Business Consultant Attorney / Judge Sales Manager Credit Investigator Marketing Personnel Computer Professional Franchise Owner</p>

**Remember: All 16 types can be successful in any profession.**

# Holland's Environment-Type Theory

- The Choice of Vocation is an Expression of Personality
- Interest Inventories are Personality Inventories
- Vocational Stereotypes Have Psychological Meaning
- People in Vocations have similar personalities & histories
- Similarities create characteristic work environments
- Occupational satisfaction, stability, & achievement depend upon the match between one's personality and the work environment.

## Holland's Personality Types from the VPI

- REALISTIC
- INVESTIGATIVE
- ARTISTIC
- SOCIAL
- ENTERPRISING
- CONVENTIONAL

# The Realistic Type

- Prefers working with objects, tools, machines, animals
- Aversion to educational & therapeutic activities
- Perceives self as having mechanical & athletic ability
- Perceives self as lacking in human relations abilities
- Values tangible rewards: money, power, status
- Simple, direct, masculine methods for coping with others
- Self-Descriptors: practical, thrifty, self-effacing, genuine, masculine, frank, conforming, normal, natural.

# The Investigative Type

- Prefers working with observational, symbolic, theoretical investigations of scientific or cultural phenomena
- Aversion to persuasive, social, repetitive activities
- Perceives self as having scholarly, mathematical, & scientific ability; values science
- Perceives self as lacking leadership ability
- Self-descriptors: Analytical, cautious, curious, critical, intellectual, introspective, introverted, methodical, pessimistic, precise, rational, unassuming, unpopular

# The Artistic Type

- Prefers working with ambiguous, free, unsystematic activities
- Aversion to explicit, ordered, systematic activities
- Perceives self as having language, artistic, musical, dramatic ability
- Perceives self as lacking in clerical & business competence
- Values Aesthetic Qualities
- Self-Descriptors: Original, intuitive, feminine, nonconforming, introspective, independent, disorderly, artistic

# The Social Type

- Prefers working with People (teaching, training, curing)
- Aversion to working with tools & machines
- Perceives self as having interpersonal & educational skills
- Perceives self as lacking in manual/technical competence
- Values social and ethical activities & problems
- Self-Descriptors: Likes to help others, has teaching ability, cooperative, feminine, friendly, generous, helpful, idealistic, insightful, kind, sociable, responsible, tactful



# The Enterprising Type

- Prefers working toward organizational goals & economic gain
- Aversion to observational, symbolic, systematic activities
- Perceives self as having leadership, interpersonal, persuasive ability
- Perceives self as lacking in scientific competency
- Values political and economic achievement & recognition
- Self-Descriptors: Aggressive, popular, self-confident, sociable, possessing leadership & public speaking abilities, ambitious, adventurous, argumentative, energetic, domineering, flirtatious, impulsive, optimistic, pleasure-seeking

# The Conventional Type

- Prefers explicit, ordered, systematic activities to attain organizational and economic goals
- Aversion to ambiguous, unstructured, exploratory activities
- Perceives self as having clerical, computational competence
- Values business & economic achievement
- Self-descriptors: conforming, orderly, dependable, efficient, inflexible, inhibited, obedient, practical, persistent, self-controlled, unimaginative

# The Problem of the “Criterion”

- A Criterion is a way of describing success
  - Will student succeed in college?
  - Are students learning?
  - How do you know when someone is performing well on the job?
  - How can you tell if someone in training is ready for job placement?
- Criteria are the variables you are trying to predict
- A criterion is necessary for almost every decision made in the human resources field
  - Selection, training, compensation, etc

# Criterion Validity

- Criteria must be valid:
  - Is the measure relevant to its stated purpose?
- Criteria must be free from rater bias or contamination by irrelevant factors
- Even valid criteria leave other considerations:
  - WHEN is criteria measured?
  - For HOW LONG is criteria measured?
  - What TYPE of measure will be used?
  - What level of performance is acceptable?

# Reliability versus Validity



**Reliable and valid**



**Reliable, but not valid**



**Neither reliable,  
nor valid**

# Hard vs. Soft Criteria

- Hard criteria appear to be objective and quantifiable
  - Rate of production
  - Total sales
  - Number of absences
  - Number of accidents
- Soft criteria are subjective & judgmental
  - Supervisor ratings

# Multidimensionality of Criteria

- Usually, no single criterion is enough to base a whole decision on - Examples:
- Police Officer
- Bank Teller
- Professor



## Should you use a “Composite” Criterion?

- A composite criterion is a weighted average of different criteria
- How to decide on weighting?
  - Based on economics?
  - Uniform weighting
  - Gut level intuition?
  - Most reliable most heavily weighted?



# Job Analysis



# Job Analysis Documents -

- The tasks performed
- The situation in which the work is performed
- The human qualities needed to perform the work

# Job Analysis is *not* the same as -

- Job Descriptions
- Job Evaluations
- Job Specifications (KSAOs)
- Performance Appraisal

# Uses of Job Analysis

- Selection & Placement
  - Determine the validity of selection techniques
- Performance Appraisal
  - How can you tell if an employee is doing well?
- Training & Development
- Provides information needed for Job Evaluation
- Job Design
- Determining Organizational Structure
  - Clarify boundaries, delineates authority & duties, etc
- Compliance with Legal Guidelines
- Organizational Analysis
  - Identify needs of organization

# Methods of Job Analysis

- Questionnaire Method
- Checklist Method
- Individual Interview (in office)
- Observation Interview (in workplace)
- Observing Incumbents
- Group Interview
- Technical Conference (Ammerman Technique)
- Diary/Systematic Activity Log
- Work Participation Method
- Critical Incident Technique

# Critical Incident Technique

- Job incumbents generate examples of good and bad job performance that they have actually witnessed.
- Job experts examine each incident and decide whether it is indeed an example of good or bad behavior.
- Incidents are then sorted into categories by incumbents.
- This is repeated with other job incumbents. Until consensus emerges as to which categories capture all of the incidents.
- The final categories constitute the important dimensions of the job.

# Who should participate in job analysis?

- Characteristics of employees may influence how they view their job
  - Competence, race, gender, age, education, etc



# Worker Response to Job Analysis



DIMITRI OTIS IMAGES



# Conducting a Job Analysis

## Basic Steps

- Step 1: Identify tasks performed
- Step 2: Write task statements
- Step 3: Rate task statements
- Step 4: Determine essential KSAOs
- Step 5: Select tests to tap KSAOs

# Conducting a Job Analysis

## Step 1: Identify Tasks Performed

- Gathering existing information
- Interviewing subject matter experts (SMEs)
  - Individual interviews
  - SME Conferences
  - Ammerman Technique
- Observing incumbents
- Job participation

# Conducting a Job Analysis

## Step 2: Write Task Statements

- Required elements to a task statement
  - Action
  - Object
- Optional elements
  - *Where* the task is done
  - *How* it is done
  - *Why* it is done
  - *When* it is done

# Conducting a Job Analysis

## Step 2: Write Task Statements

- Characteristics of well-written task statements
  - One action and one object
  - Appropriate reading level
  - The statement should make sense by itself
  - All statements should be written in the same tense
  - Should include the tools and equipment used to complete the task
  - Task statements should not be competencies
  - Task statements should not be policies

Poorly written task statement	Properly written task statement
Sends purchase requests	Sends purchase requests to the purchasing department using campus mail
Drives	Drives a five-speed truck to make food deliveries within the city of Toledo
Locks hall doors	Uses master key to lock hall doors at midnight so that nonresidents cannot enter the residence hall

# What is Wrong with these Task Statements?

- Handles customer complaints
- Type, files, and distributes correspondence
- Utilizes decision-making skills and abilities
- In charge of the copy machine
- Uses the computer to balance department budget
- Responsible for opening and closing the office
- Greets visitors
- Examines supervisor's daily schedule
- Oversees the office



# Conducting a Job Analysis

## Step 3: Rate Task Statements

- Tasks can be rated on a variety of scales
  - Importance
  - Part-of-the-job
  - Frequency of performance
  - Time spent
  - Relative time spent
  - Complexity
  - Criticality
- Research shows only two scales are necessary
  - Frequency
  - Importance

# Rating Scale

(Task must be included in analysis if its ratings of frequency & importance exceed a critical threshold)

<b>Frequency</b>	
0	Task is not performed as part of this job
1	Task is seldom performed
2	Task is occasionally performed
3	Task is frequently performed
<b>Importance</b>	
0	Unimportant. There would be no negative consequence if the task were not performed or not performed properly
1	Important: Job performance would be diminished if task were not completed properly
2	Essential: The job could not be performed effectively if the incumbent did not properly complete this task



# Conducting a Job Analysis

## Step 4: Determine Essential KSAOs

<b>Knowledge</b>	A body of information needed to perform a task
<b>Skill</b>	The proficiency to perform a certain task
<b>Ability</b>	A basic capacity for performing a wide range of different tasks, acquiring a knowledge, or developing a skill
<b>Other characteristics</b>	Personal factors such as personality, willingness, interest, and motivation and such tangible factors as licenses, degrees, and years of experience

Competency	KSAO
1. Typing speed	Skill
2. Finger dexterity	Ability
3. Driving a car	Skill
4. Traffic rules	Knowledge
5. A driver's license	Other
6. A friendly personality	Other
7. Ten years of experience	Other
8. Basic intelligence	Ability

Competency	KSAO
9. Physical strength	Ability
10. Color vision	Ability
11. Being a nonsmoker	Other
12. Customer service experience	Other
13. Use of PowerPoint	Skill, knowledge
14. Willingness to work weekends	Other
15. Spelling and grammar	Skill, knowledge
16. Writing reports	Skill

# Approaches to Job Analysis

- Job-Oriented Approaches
  - Emphasize the conditions & results of work; very “technological”
  - Best for work design & writing job descriptions
  - Examples Include:
    - Task Analysis
    - Job Components Inventory (JCI)

# Approaches to Job Analysis

- **Worker-Oriented Approaches**
  - Emphasizes the behaviors of individuals
  - Best for selection, performance appraisal, structuring training programs.
  - Examples Include:
    - Position Analysis Questionnaire (PAQ)
    - Functional Job Analysis (FJA)

# The Position Analysis Questionnaire (PAQ)

## A Structured Worker-Oriented Technique

- Position Analysis Questionnaire
  - Importance of 194 Items rated on 1-5 scale
  - 6 main dimensions
    - Information input (perceptual & other sources)
    - Mental processes (reasoning, decision making)
    - Work output (manual manipulation; coordination; output devices)
    - Relationships with others (communication; supervision; personal contact)
    - Job context physical & psychological working conditions
    - Other/Miscellaneous (schedule, apparel, method of pay, responsibility)
  - Easy to use
  - Standardized
  - Difficult to read for average employee

# Sample Page from the Position Analysis Questionnaire (PAQ)

**TABLE 4.4**  
**Sample Page from**  
**the Position Analysis**  
**Questionnaire (PAQ)**

Source: E. J. McCormick, P. R. Jeanneret, and R. C. Mecham, *Position Analysis Questionnaire*. Copyright 1969 by Purdue Research Foundation, West Lafayette, Ind. Reprinted with permission.

## Information Input

### 1.1 Sources of Job Information

Rate each of the following items in terms of the extent to which it is used by the worker as a source of information in performing the job.

Code	Extent of use
N	Does not apply
1	Nominal/very infrequent
2	Occasional
3	Moderate
4	Considerable
5	Very substantial

#### 1.1.1 Visual Sources of Job Information

- 1 \_\_\_\_\_ Written materials (books, reports, office notes, articles, job instructions, signs, etc.)
- 2 \_\_\_\_\_ Quantitative materials (materials which deal with quantities or amounts, such as graphs, accounts, specifications, tables of numbers, etc.)
- 3 \_\_\_\_\_ Pictorial materials (pictures or picturelike materials used as sources of information, for example, drawings, blueprints, diagrams, maps, tracings, photographic films, x-ray films, TV pictures, etc.)
- 4 \_\_\_\_\_ Patterns/related devices (templates, stencils, patterns, etc., used as sources of information when observed during use; do not include here materials described in item 3 above)
- 5 \_\_\_\_\_ Visual displays (dials, gauges, signal lights, radarscopes, speedometers, clocks, etc.)
- 6 \_\_\_\_\_ Measuring devices (rules, calipers, tire pressure gauges, scales, thickness gauges, pipettes, thermometers, protractors, etc., used to obtain visual information about physical measurements; do not include devices described in item 5 above)
- 7 \_\_\_\_\_ Mechanical devices (tools, equipment, machinery, and other mechanical devices which are sources of information when observed during use or operation)
- 8 \_\_\_\_\_ Materials in process (parts, materials, objects, etc., which are sources of information when being modified, worked on, or otherwise processed, such as bread dough being mixed, workpiece being turned in a lathe, fabric being cut, shoe being resoled, etc.)
- 9 \_\_\_\_\_ Materials not in process (parts, materials, objects, etc., not in the process of being changed or modified, which are sources of information when being inspected, handled, packaged, distributed, or selected, etc., such as items or materials in inventory, storage, or distribution channels, items being inspected, etc.)
- 10 \_\_\_\_\_ Features of nature (landscapes, fields, geological samples, vegetation, cloud formations, and other features of nature which are observed or inspected to provide information)
- 11 \_\_\_\_\_ "Manmade" features of environment (structures, buildings, dams, highways, bridges, docks, railroads, and other "manmade" or altered aspects of the indoor or outdoor environment which are observed or inspected to provide job information; do not consider equipment, machines, etc., that individuals use in their work, as covered by item 7)

# Sample Page from the PAQ

**RELATIONSHIPS WITH OTHER PERSONS**

Code Importance to This Job (I)

N Does not apply

1 Very minor

2 Low

3 Average

4 High

5 Extreme

**4 Relationships with Other Persons**  
This section deals with different aspects of interaction between people involved in various kinds of work.

**4.1 Communications**  
Rate the following in terms of how important the activity is to the completion of the job. Some jobs may involve several or all of the items in this section.

**4.1.1 Oral (communicating by speaking)**

99 | I Advising (dealing with individuals in order to counsel and/or guide them with regard to problems that may be resolved by legal, financial, scientific, technical, clinical, spiritual, and/or other professional principles)

100 | I Negotiating (dealing with others in order to reach an agreement or solution, for example, labor bargaining, diplomatic relations, etc.)

101 | I Persuading (dealing with others in order to influence them toward some action or point of view, for example, selling, political campaigning, etc.)

102 | I Instructing (the teaching of knowledge or skills, in either an informal or a formal manner, to others, for example, a public school teacher, a machinist teaching an apprentice, etc.)

103 | I Interviewing (conducting interviews directed toward some specific objective, for example, interviewing job applicants, census taking, etc.)

104 | I Routine information exchange: job related (the giving and/or receiving of job-related information of a routine nature, for example, ticket agent, taxicab dispatcher, receptionist, etc.)

105 | I Nonroutine information exchange (the giving and/or receiving of job-related information of a nonroutine or unusual nature, for example, professional committee meetings, engineers discussing new product design, etc.)

106 | I Public speaking (making speeches or formal presentations before relatively large audiences, for example, political addresses, radio/TV broadcasting, delivering a sermon, etc.)

**4.1.2 Written (communicating by written/printed material)**

107 | I Writing (for example, writing or dictating letters, reports, etc., writing copy for ads, writing newspaper articles, etc.: do not include transcribing activities described in item 43, but only activities in which the incumbent creates the written material)

**4.1.3 Other Communications**

108 | I Signaling (communicating by some type of signal, for example, hand signals, semaphore, whistles, horns, bells, lights, etc.)

109 | I Code communications (telegraph, cryptography, etc.)



# Attempts to Improve the PAQ

- Job Elements Inventory (JEI)
  - (easier instructions)
- Job Structure Profile (JSP)

# Functional Job Analysis (FJA)

## A Relatively Unstructured Worker-Oriented Technique

- Developed for the U.S. Government
- A combination of interview & observation of job performance
- Attempts to describe what workers do and at what level they engage in it
- Used in the Occupational Information Network (O\*NET) O\*NET describes : (<http://www.occupationalinfo.org/onet/>)
  - Tasks performed
  - Knowledge required
  - Skills needed
  - Abilities
  - Work activities
  - Work Context
  - Interests
  - Work Values
  - Crosswalks

# Jobs are assessed according to the level with which they deal with Data, People, Things, Worker Instructions, Reasoning, Math, & Language

## Examples:

### DATA

- 0 – Synthesizing
- 1 – Coordinating
- 2 – Analyzing
- 3 – Compiling
- 4 – Computing
- 5 – Copying
- 6 – Comparing

### PEOPLE

- 0 – Mentoring
- 1 – Negotiating
- 2 – Instructing
- 3 – Supervising
- 4 – Diverting
- 5 – Persuading
- 6 – Speaking/Signaling
- 7 – Serving
- 8 – Taking Instructions
- 9 – Helping

### THINGS

- 0 – Setting Up
- 1 – Precision Working
- 2 – Operating/Controlling
- 3 – Driving/Operating
- 4 – Manipulating
- 5 – Tending
- 6 – Feeding/Offbearing
- 7 - Handling

# Each job has a specific O\*NET Code

- **EXAMPLE: SURVEY RESEARCHER**

The first two digits represent the major group (Scientist)

The third digit represents the minor group (Social Scientist)

The fourth and fifth digits represent the broad occupation

The sixth digit represents the detailed occupation

19 - 3 02 2 (Survey Researcher)



## Survey Researchers - 19-3022.00

### O\*NET-SOC Description

Plan, develop, or conduct surveys. May analyze and interpret the meaning of survey data, determine survey objectives, or suggest or test question wording. Includes social scientists who primarily design questionnaires or supervise survey teams.

### Sample of Reported Job Titles

- Data Analyst
- Field Interviewer
- Market Survey Representative
- Methodologist
- Public Opinion Analyst
- Research Associate
- Research Fellow
- Research Interviewer
- Survey Research Consultant
- Telephone Interviewer

### SOC Occupation Groups

19-0000	<a href="#">Life, Physical, and Social Science Occupations</a>
19-3000	<a href="#">Social Scientists and Related Workers</a>
19-3020	<a href="#">Survey Researchers</a>
<b>19-3022.00</b>	<b>Survey Researchers</b>

### Related Occupations

+ - 5 of 10 displayed

- 11-2021.00 [Marketing Managers](#) **Bright Outlook**
- 13-1111.00 [Management Analysts](#)
- 13-1151.00 [Training and Development Specialists](#)
- 13-1161.00 [Market Research Analysts and Marketing Specialists](#)
- 13-2011.02 [Auditors](#)

# Survey Researcher Tasks

- Analyze data from surveys, old records, or case studies, using statistical software.
- Collaborate with other researchers in the planning, implementation, and evaluation of surveys.
- Conduct research to gather information about survey topics.
- Conduct surveys and collect data, using methods such as interviews, questionnaires, focus groups, market analysis surveys, public opinion polls, literature reviews, and file reviews.
- Consult with clients to identify survey needs and specific requirements, such as special samples.
- Determine and specify details of survey projects, including sources of information, procedures to be used, and the design of survey instruments and materials.
- Direct and review the work of staff members, including survey support staff and interviewers who gather survey data.
- Direct updates and changes in survey implementation and methods.
- Hire and train recruiters and data collectors.
- Monitor and evaluate survey progress and performance, using sample disposition reports and response rate calculations.
- Prepare and present summaries and analyses of survey data, including tables, graphs, and fact sheets that describe survey techniques and results.
- Produce documentation of the questionnaire development process, data collection methods, sampling designs, and decisions related to sample statistical weighting.
- Review, classify, and record survey data in preparation for computer analysis.
- Support, plan, and coordinate operations for single or multiple surveys.
- Write proposals to win new projects.
- Write training manuals to be used by survey interviewers.

# Occupational Classification

- Jobs can be classified by:
  - Job Content (clerical, service, agriculture)
  - Worker Prerequisites (Job Specifications)
    - Education, strength, etc



ing, Inc

# Job Evaluation



- Establishing the financial worth of a job
- Goal = Internal & External Pay Equity
- The worth of a job depends upon the degree to which “compensable factors” are present



# Compensable Job Factors

- Physical Demands
- Mental Demands
- Responsibility that the job carries
- Experience/training required
- Educational Requirements
- Working Conditions

# Ways of Assessing Job Worth

- Ranking Method
- Point Method
- Salary Surveys

# Internal & External Pay Equity are Important Goals



# Legal Issues that Haunt HR Professionals



HR  
Professionals

# Employment Law

(Legal Issues in Hiring)



# Legal Issues in Employee Selection

- Equal Employment Opportunity Commission (EEOC)
- “Protected Classes” of People
- Bona Fide Occupational Qualification (BFOQ)
- Adverse Impact
  - Determined by the “four-fifths rule”

# Which Classes are “Protected?”

- Race
- Color
- Sex
- National Origin
  - e.g., Hispanics
- Age
- Disability
- Pregnancy
- Religion & Religious Practices

# Adverse Impact

Occurs when the selection rate for one group is less than 80% of the rate for the highest scoring group

	Male	Female
Number of applicants	50	30
Number hired	20	10
Selection ratio	.40	.33

$$.33/.40 = .83 > .80 \text{ (no adverse impact)}$$



## Adverse Impact - Example 2

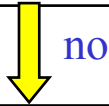
	Male	Female
Number of applicants	40	20
Number hired	20	4
Selection ratio	.50	.20

$$.20/.50 = .40 < .80 \text{ (adverse impact)}$$

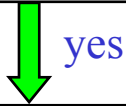
Does requirement directly refer to member of federally protected class?



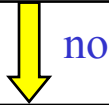
Has case law, state law, or local law expanded definition of protected class?



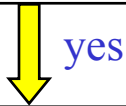
Does requirement have adverse impact?



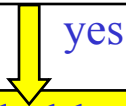
Is requirement subterfuge for discrimination?



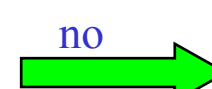
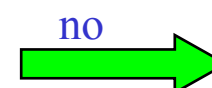
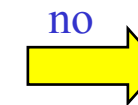
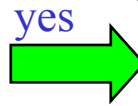
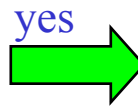
Is requirement job related?



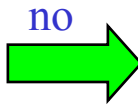
Were alternatives with less adverse impact considered?



Probably Legal



BFOQ?



Probably Legal

Probably Illegal

Probably Illegal

Probably Illegal

Probably Illegal

# Examples of EEOC Settlements

- 1993: Shoney's restaurant chain settled a racial discrimination case for \$132.5 million. (Persistent discrimination against African-American employees.) Also agreed to institute an affirmative action plan over next ten years.
- 1996: Texaco paid \$176 million to 1400 current & former African-American employees (over public airing of tape of executive using a racial slur).
- 2000: Coca-Cola settled a racial discrimination case for \$192.5 million.
- 2000: Nextel settled a gender/race/age suit for \$176 million.
- 2005: Abercrombie & Fitch settled a sex/race complaint for \$40 million
- 2010: Novartis settled a sex discrimination suit for \$175 million.
- 2013: Merrill Lynch settled a racial discrimination case for \$160 million (\$111,000 each for 1,433 individuals).

# Sexual Harassment & Hostile Work Environment



# Sexual Harassment & Hostile Work Environment



# Sexual Harassment & Hostile Work Environment

- Quid Pro Quo (sleep with boss to get ahead)
- Unwanted Patterns of Conduct
- Must be based on gender/sex of employee
- Confidentiality, Due Process, severity of punishment all important issues
- ALL complaints need to be investigated

# AFFIRMATIVE ACTION

A hand holding a red marker is shown underlining the text 'AFFIRMATIVE ACTION'. The text is written in a bold, black, hand-drawn style. The hand is positioned on the right side of the frame, with the marker tip touching the end of the red underline.

# Affirmative Action Strategies

- Monitor Hiring/Promotion Statistics
- Actively Recruit Minority Applicants
- Identify/Remove impediments that work against minority applicants
- Preferential hiring/promotion



# Privacy Issues

(Searches, Drug Testing, Surveillance, etc)



# Employee Selection

- Traditional Approach
  - Everyone screened with same predictors
- Differential Prediction Approach
  - Necessary when predictor has only *single group validity*
    - Different predictors work better for different groups

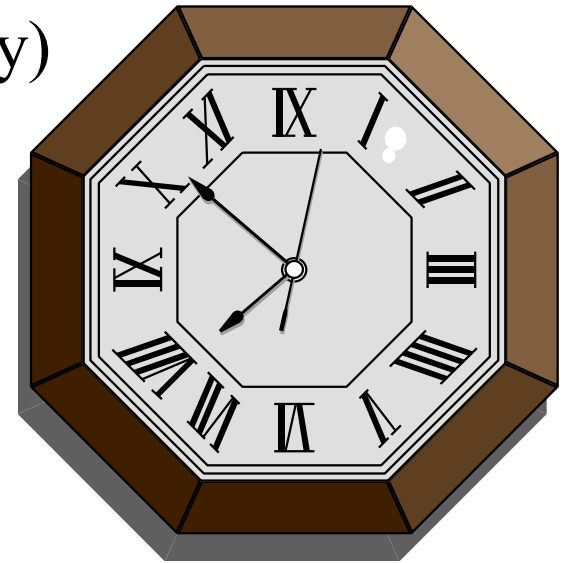


# Requirements for Psychological Tests

- Psychological Tests Must Be:
  - Reliable
  - Valid
  - Standardized
  - Normed

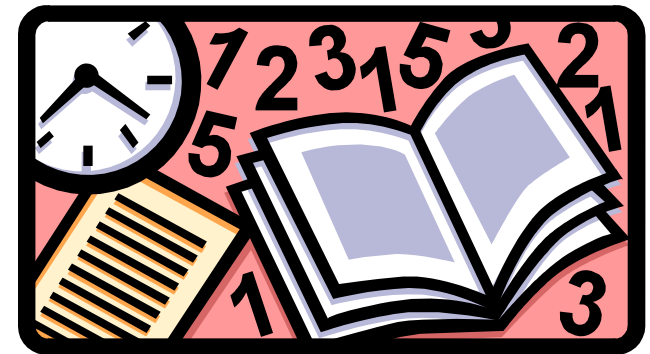
# Reliability

- The extent to which a score from a test is consistent and free from errors of measurement
- Methods of Determining Reliability
  - Test-retest (temporal stability)
  - Alternate/Parallel forms (form stability)
  - Internal reliability (item stability)
  - Scorer reliability



# Test-Retest Reliability

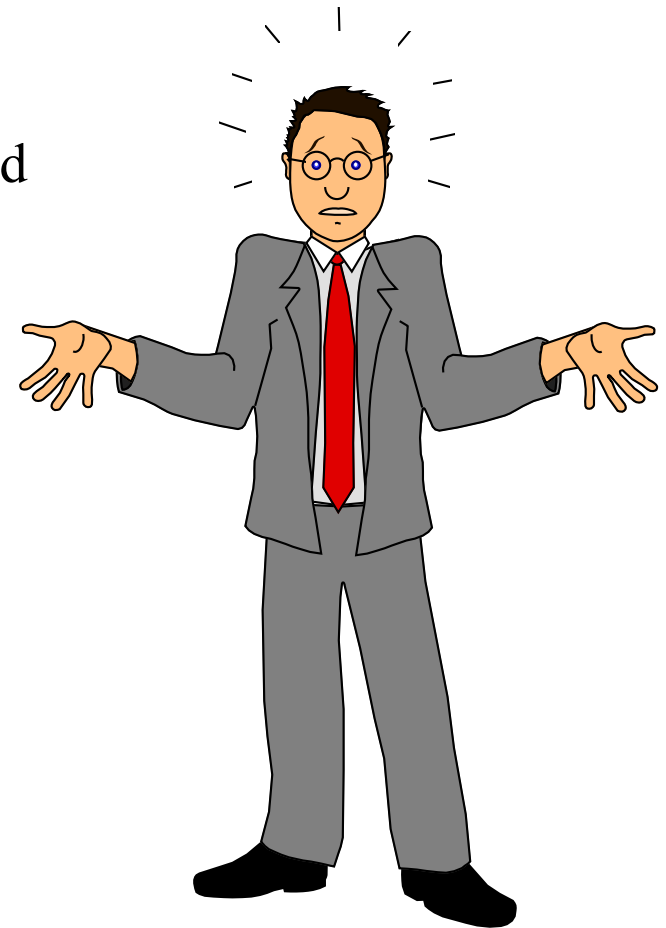
- Measures temporal stability
- Administration
  - Same applicants
  - Same test
  - Two testing periods
- Scores at time one are correlated with scores at time two
- Correlation should be above .70



# Test-Retest Reliability

## Problems

- Sources of measurement errors
  - Characteristic or attribute being measured may change over time
  - Reactivity
  - Carry over effects
- Practical problems
  - Time consuming
  - Expensive
  - Inappropriate for some types of tests



# Alternate Forms Reliability

## Administration

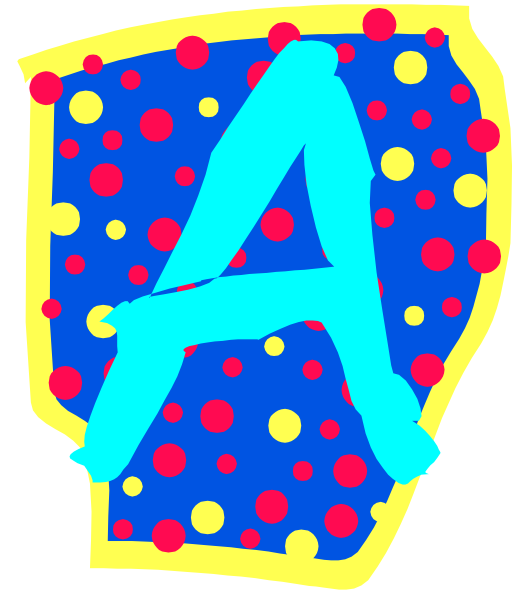
- Two forms of the same test are developed, and to the highest degree possible, are equivalent in terms of content, response process, and statistical characteristics
- One form is administered to examinees, and at some later date, the same examinees take the second form



# Alternate Forms Reliability

## Scoring

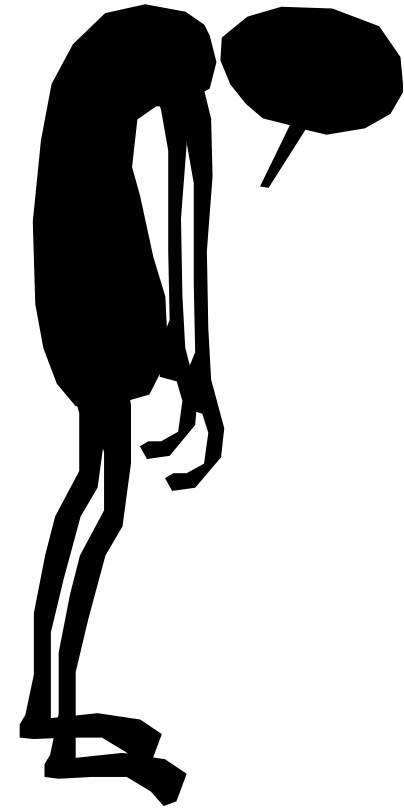
- Scores from the first form of test are correlated with scores from the second form
- If the scores are highly correlated, the test has form stability



# Alternate Forms Reliability

## Disadvantages

- Difficult to develop
- Content sampling errors
- Time sampling errors



# Internal Reliability

- Defines measurement error strictly in terms of consistency or inconsistency in the content of the test.
- With this form of reliability the test is administered only once and item stability is assessed.

# Determining Internal Reliability

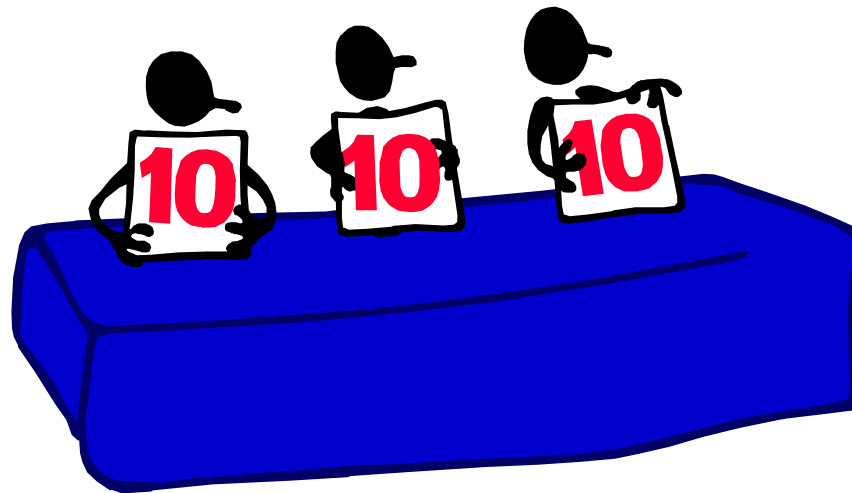
- Split-Half method (most common)
  - Test items are divided into two equal parts
  - Scores for the two parts are correlated to get a measure of internal reliability.
- Spearman-Brown prophecy formula adjusts the correlation coefficient:  
$$(2 \times \text{split half reliability}) \div (1 + \text{split-half reliability})$$

# Common Methods for Correlating Split-half Methods

- Cronbach's Coefficient Alpha
  - Used with ratio or interval data.
- Kuder-Richardson Formula
  - Used for test with dichotomous items (yes-no true-false)

# Interrater Reliability

- Used when human judgment of performance is involved in the selection process
- Refers to the degree of agreement between 2 or more raters



# Reliability versus Validity



**Reliable and valid**



**Reliable, but not valid**



**Neither reliable,  
nor valid**

# Test Validity

- Criterion Validity
- Content Validity
- Construct validity
- Face Validity





# Criterion Validity

- Criterion validity refers to the extent to which a test score is related to some measure of job performance called a criterion
- Established using one of the following research designs:
  - Concurrent Validity (Known-Group Method)
  - Predictive Validity (Follow-up Method)
  - Validity Generalization

# Concurrent Validity

- Uses current employees
- Range restriction can be a problem



# Predictive Validity

- Correlates test scores with future behavior (The Follow-Up Method)
- Reduces the problem of range restriction
- May not be practical



# Validity Generalization

- Validity Generalization is the extent to which a test found valid for a job in one location is valid for the same job in a different location
- The key to establishing validity generalization is meta-analysis and job analysis

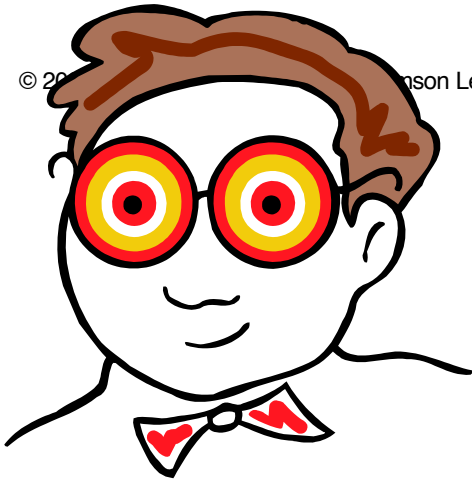


# Content Validity

- The extent to which test items sample the content that they are supposed to measure
- In industry the appropriate content of a test of test battery is determined by a job analysis

# Construct Validity

- The extent to which a test actually measures the construct that it purports to measure
- Is concerned with inferences about test scores
- Determined by correlating scores on a test with scores from other test



# Face Validity

- The extent to which a test appears to be job related
- Reduces the chance of legal challenge
- Increasing face validity causes people to take the test more seriously

# Standardization and Norming

- Standardized Tests: Uniformly administered to all subjects
- Norms: Scores must be ordered along a scale on which passing/critical scores are empirically determined.



# Finding/Selecting Tests

- APA has a scheme for classifying tests
  - Level A Tests (lowest level)
  - Level B Tests (intermediate level)
  - Level C Tests (most demanding level)
- Standard sources describe tests
  - e.g., Mental Measurements Yearbook
  - Contain validity & reliability information

# Selection Utility



# Utility

*The degree to which a selection device improves the quality of a personnel system, above and beyond what would have occurred had the instrument not been used.*

# Selection Utility Is Best When...

- You have many job openings
- You have many more applicants than openings
- You have a valid test
- The job in question has a high salary
- The job is not easily performed or easily trained

# Components of Utility

## Selection ratio

The ratio between the number of openings to the number of applicants

## Criterion Validity coefficient

## Base rate of current performance

The percentage of employees currently on the job who are considered successful.

## $SD_y$ (variability of performance between workers)

Actual dollars saved by having a very good worker rather than an “average” worker

# Common Utility Methods

Taylor-Russell Tables

Proportion of Correct Decisions (Expectancy Charts)

Lawshe Tables

The Brogden-Cronbach-Gleser Utility Formula



# Utility Analysis

## Taylor-Russell Tables

- Estimates the percentage of future employees that will be successful
- Three components
  - Validity
  - Base rate (successful employees  $\div$  total employees)
  - Selection ratio (hired  $\div$  applicants)

# Taylor-Russell Example

- Suppose we have
  - a test validity of .25
  - a selection ratio of .30
  - a base rate of .50
- Using the Taylor-Russell Tables what percentage of future employees would be successful?





# Taylor-Russell Tables

Base Rate of Success (BRS)	Level of Validity $r$	Selection Ratio (SR)										
		.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
.30	$r$	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
	.00	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
	.25	.50	.47	.43	.41	.39	.37	.36	.34	.33	.32	.31
	.50	.72	.65	.58	.52	.48	.44	.41	.38	.35	.33	.31
	.75	.93	.86	.76	.67	.59	.52	.47	.42	.37	.33	.32
.50	$r$	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
	.00	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
	.25	.70	.67	.64	.62	.60	.58	.56	.55	.54	.52	.51
	.50	.88	.84	.78	.74	.70	.67	.63	.60	.57	.54	.52
	.75	.99	.97	.92	.87	.82	.77	.72	.66	.61	.55	.53
.70	$r$	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
	.00	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70
	.25	.86	.84	.81	.80	.78	.77	.76	.75	.73	.72	.71
	.50	.96	.94	.91	.89	.87	.84	.82	.80	.77	.74	.72
	.75	1.00	1.00	.98	.97	.95	.92	.89	.86	.81	.76	.73

Source: Adapted from H. C. Taylor and J. T. Russell, "The Relationship of Validity Coefficients to the Practical Effectiveness of Tests in Selection," *Journal of Applied Psychology*, Vol. 23, 1939, pp. 565-578.

Source: Fisher, Schoenfeldt, & Shaw (2003), Table 7.2

# Proportion of Correct Decisions

- Proportion of Correct Decisions With Test

(Correct rejections + correct acceptances)  $\div$  Total employees

*Quadrant II*

*Quadrant IV*

*Quadrants I+II+III+IV*

- Baseline of Correct Decisions

Successful employees  $\div$  Total employees

*Quadrants I + II*

*Quadrants I+II+III+IV*

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10	I					II				
9			X		X	X	X	X		
8			X				X			
7			X		X	X	X		X	
6	IV					III				
5		X	X		X				X	
4			X	X						
3				X	X			X		
2		X	X				X			
1		X								X
	1	2	3	4	5	6	7	8	9	10

Test Score (x)

# Proportion of Correct Decisions

- Proportion of Correct Decisions With Test

$$\left( \begin{array}{c} 10 \\ \text{Quadrant II} \end{array} + \begin{array}{c} 11 \\ \text{Quadrant IV} \end{array} \right) \div (5 + 10 + 4 + 11)$$

*Quadrants I+II+III+IV*

$$= 21 \div 30 = .70$$

- Baseline of Correct Decisions

$$\begin{array}{c} 5 + 10 \\ \text{Quadrants I + II} \end{array} \div \begin{array}{c} 5 + 10 + 4 + 11 \\ \text{Quadrants I+II+III+IV} \end{array}$$

$$= 15 \div 30 = .50$$

# Lawshe Tables

- Use base rate info, criterion validity, & an individual's test score
- Predicts the probability that a particular individual will be successful

**Exhibit 4.06** Lawshe individual prediction tables

Percentage of Current Employees Considered Satisfactory	Applicant Scores on Selection Test					
	r	Top 20%	Next 20%	Middle 20%	Next 20%	Bottom 20%
30%	.20	40	34	29	26	21
	.30	46	35	29	24	16
	.40	51	37	28	21	12
	.50	58	38	27	18	09
	.60	64	40	26	15	05
	40%	.20	51	45	40	35
.30		57	46	40	33	24
.40		63	48	39	31	19
.50		69	50	39	28	14
.60		75	53	38	24	10
50%		.20	61	55	50	45
	.30	67	57	50	43	33
	.40	73	59	50	41	28
	.50	78	62	50	38	22
	.60	84	65	50	35	16
	60%	.20	71	63	60	56
.30		76	66	61	54	44
.40		81	69	61	52	37
.50		86	72	62	47	25
.60		90	76	62	47	25
70%		.20	79	75	70	67
	.30	84	76	71	65	54
	.40	88	79	72	63	49
	.50	91	82	73	62	42
	.60	95	85	74	60	36

Note: Percentages indicate probability that applicant with a particular score will be a successful employee.

Source: "Expectancy charts II: Their theoretical development," C. H. Lawshe and R. A. Brune, 1958, *Personnel Psychology* 11, 545-599.

# Brogden-Cronbach-Gleser Utility Formula

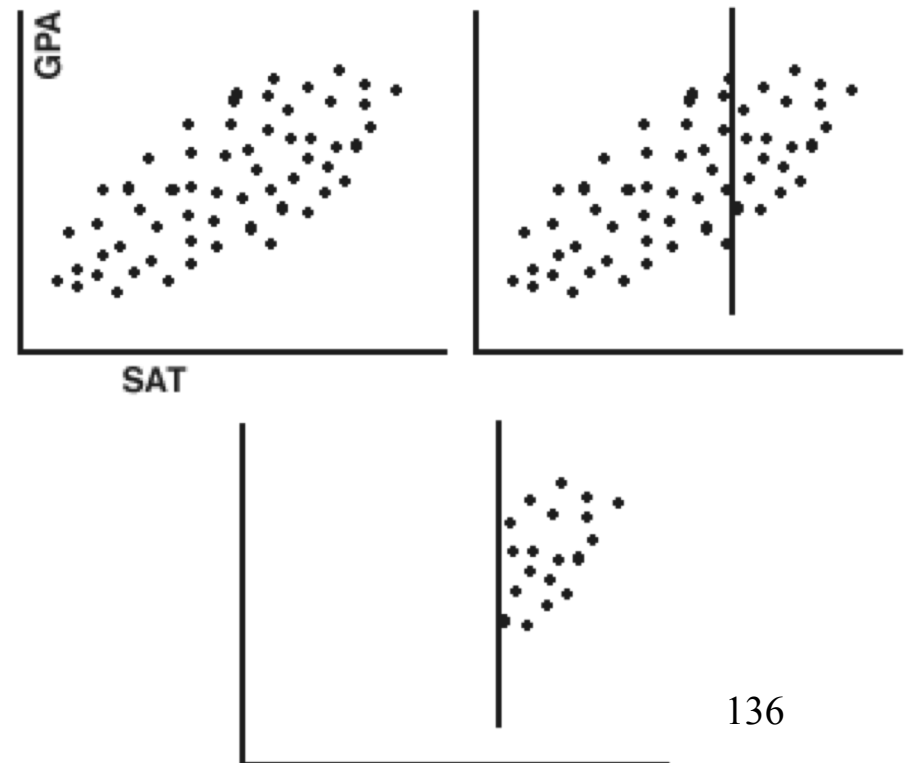
- Gives an estimate of utility by estimating the amount of money an organization would save if it used the test to select employees.

$$\text{Savings} = (n) (t) (r) (SDy) (m) - \text{cost of testing}$$

- $n$  = Number of employees hired per year
- $t$  = average tenure
- $r$  = test validity
- $SDy$  = standard deviation of performance in dollars
- $m$  = mean standardized predictor score of selected applicants

# Problems Encountered When Estimating Utility

- Shrinkage – Predictive efficiency declines from original sample to others.
- Restriction of Range





# Test Fairness



# Other Fairness Issues

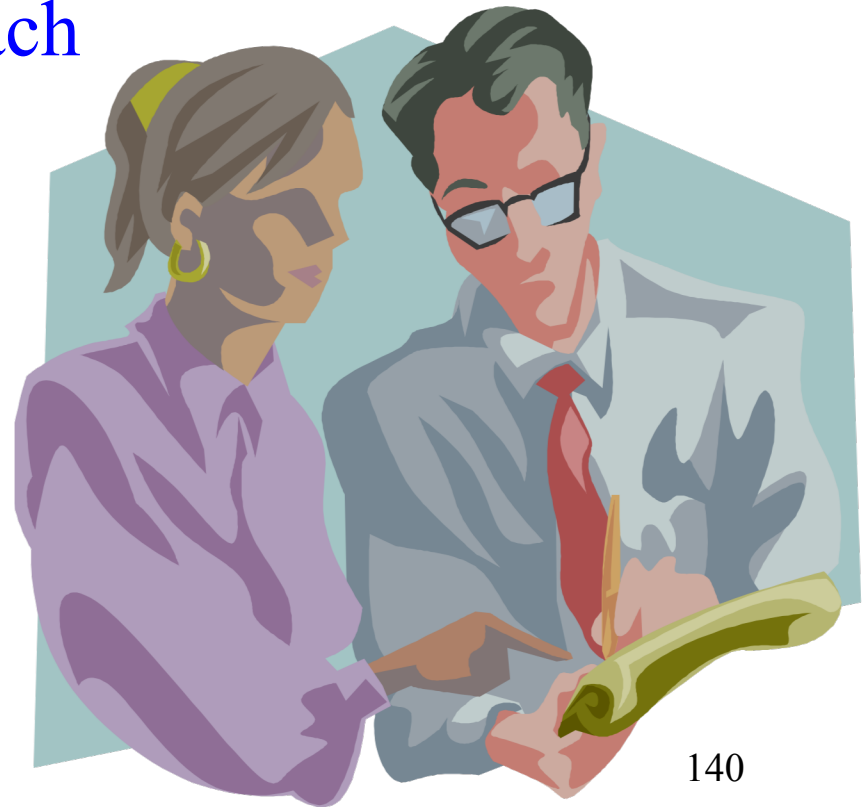
- **Single-Group Validity**
  - Test predicts for one group but not another
  - Very rare
- **Differential Validity**
  - Test predicts for both groups but better for one
  - Also very rare

# Making the Hiring Decision



# How can Test Scores be Used to Make Hiring Decisions?

- Unadjusted Top-down Selection
- Passing Scores
- Cutoffs
- The Multiple Hurdle Approach
- Banding



# Unadjusted Top-Down Selection

Who will perform the best?

(Can be tweaked with a “Rule of 3” or “Rule of 5”)

Applicant	Sex	Test Score
Drew	M	99
Eric	M	98
Lenny	M	91
Omar	M	90
Mia	F	88
Morris	M	87

# Unadjusted Top-Down Selection

## Advantages

- Possibly higher quality of selected applicants
- Objective decision making

## Disadvantages

- Less flexibility in decision making
- Adverse impact = less workforce diversity
- Ignores measurement error
- Assumes test score accounts for all the variance in performance (Zedeck, Cascio, Goldstein & Outtz, 1996).

# The Passing Scores Approach

Who will perform at an acceptable level?

A passing score is a point in a distribution of scores that distinguishes acceptable from unacceptable performance (Kane, 1994).

Uniform Guidelines (1978) Section 5H:

Passing scores should be reasonable and consistent with expectations of acceptable proficiency

# Passing Scores

Applicant	Sex	Score
Omar	M	98
Eric	M	80
Mia	F	70 (passing score)
Morris	M	69
Tammy	F	58
Drew	M	40



# Passing Scores

## Advantages

- Increased flexibility in decision making
- Less adverse impact against protected groups

## Disadvantages

- Lowered utility
- Can be difficult to set

# Cutoffs

- All applicants take multiple tests
- Tests are graded on a pass-fail basis
- To be hired, the applicant must pass *all* of the tests

# The Multiple Hurdle Approach

- There is a series of successive tests to screen applicants
- Applicant takes one test at a time, starting with the least expensive
- Applicant is rejected as soon as a test is failed

# Banding

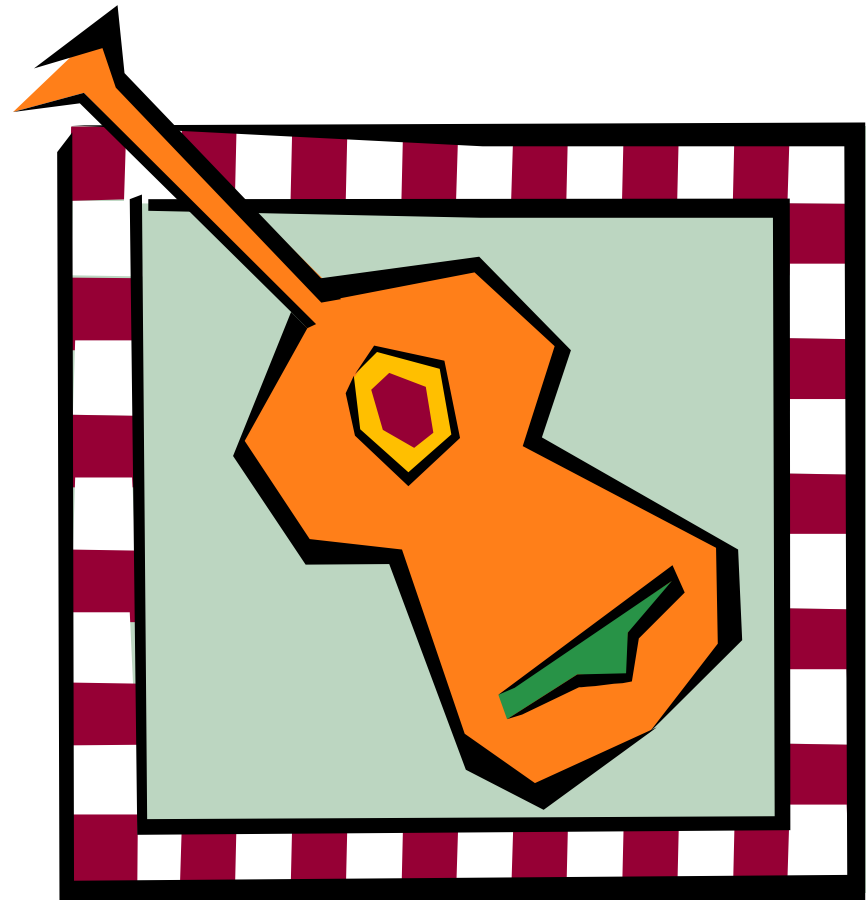
- Hire anyone within a “hiring band”.
- The width of the band is based upon the standard error of the test and other statistical criteria.
- Banding can help to achieve certain hiring goals such as improving diversity.

# Banding

Fixed  
Sliding

Diversity-based

- Females and minorities are given preference when selecting from within a band.



# Advantages of Banding

- Helps reduce adverse impact, increase workforce diversity, and increase perceptions of fairness
- Allows you to consider secondary criteria relevant to the job



# Disadvantages of Banding

- Lose valuable information
- Possibly lower quality people selected
- Sliding bands may be difficult to apply in the private sector
- Banding without minority preference may not reduce adverse impact



# Legal Issues in Banding

Banding has generally been approved by the courts

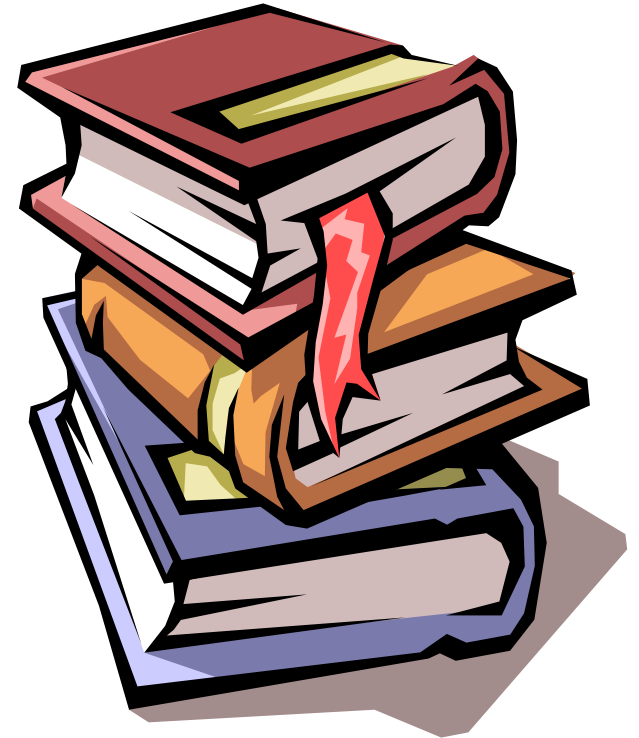
- Bridgeport Guardians v. City of Bridgeport, 1991
- Chicago Firefighters Union Local No.2 v. City of Chicago, 1999
- Officers for Justice v. Civil Service Commission, 1992





# What the Organization Should do to Protect Itself

- The company should have established rules and procedures for making choices within a band
- Applicants should be informed about the use and logic behind banding in addition to company values and objectives



# Types of Selection Tests

- Individual vs. Group Tests
- Speed vs. Power Tests
- Paper & Pencil vs. Performance Tests
- Aptitude Tests
  - Stanford-Binet, WAIS
  - Wonderlic Personnel Test
  - Otis Self-Administering Test of Mental Ability

# Types of Selection Tests (cont' d)

- Tests of Specific Cognitive Abilities
  - Westman Mechanical Reasoning Test
  - The Short Test of Clerical Ability
  - The Differential Aptitude Test
  - Minnesota Spatial Relations
  - Minnesota Mechanical Assembly Test
  - MacQuarrie Test of Mechanical Ability

**THE WONDERLIC PERSONNEL TEST™**

# WPT™ Sample Questions

1. Assume the first 2 statements are true. Is the final one:  
1 true, 2 false, 3 not certain?  
  
The boy plays baseball. All baseball players wear hats.  
The boy wears a hat.

---

2. Paper sells for 21 cents per pad. What will 4 pads cost?

---

3. How many of the five pairs of items listed below are exact duplicates?  
  

Nieman, K.M.	Neiman, K.M.
Thomas, G.K.	Thomas, C.K.
Hoff, J.P.	Hoff, J.P.
Pino, L.R.	Pina, L.R.
Warner, T.S.	Wanner, T.S.

---

4. PRESENT RESERVE — Do these words  
1 have similar meanings, 2 have contradictory  
meanings, 3 mean neither the same nor opposite?

---

5. A train travels 20 feet in 1/5 second. At this same speed,  
how many feet will it travel in three seconds?

---

6. When rope is selling at \$.10 a foot, how many feet can you  
buy for sixty cents?

---

7. The ninth month of the year is  
1 October, 2 January, 3 June,  
4 September, 5 May.

---

8. Which number in the following group of numbers  
represents the smallest amount?  
7 .8 31 .33 2

---

9. In printing an article of 48,000 words, a printer decides to  
use two sizes of type. Using the larger type, a printed page  
contains 1,800 words. Using smaller type, a page contains  
2,400 words. The article is allotted 21 full pages in a  
magazine. How many pages must be in smaller type?

10. Three individuals form a partnership and agree to divide the  
profits equally. X invests \$9,000, Y invests \$7,000, Z invests  
\$4,000. If the profits are \$4,800, how much less does X  
receive than if the profits were divided in proportion to the  
amount invested?

---

11. Assume the first two statements are true. Is the final one:  
1 true, 2 false, 3 not certain?  
  
Tom greeted Beth. Beth greeted Dawn.  
Tom did not greet Dawn.

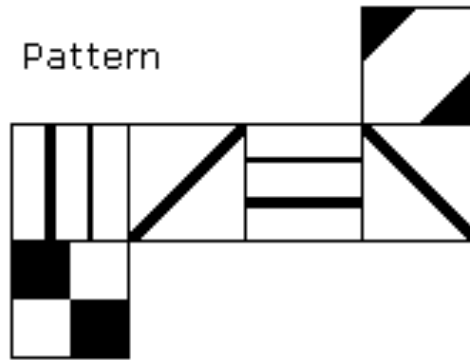
---

12. A boy is 17 years old and his sister is twice as old. When the  
boy is 23 years old, what will be the age of his sister?

These are sample test questions and are intended for demonstration purposes only. The Wonderlic Personnel Test is published by Wonderlic, Inc.

<b>Answers</b>		
1. true	2. 84 cents	3. 1
4. 3	5. 300 feet	6. 6 feet
7. September	8. .33	9. 17
10. \$560	11. not certain	12. 40 years old

# Spatial Relations Test Question



A



B

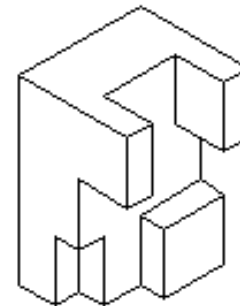
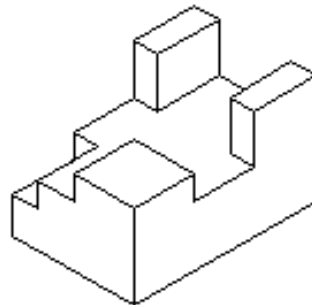
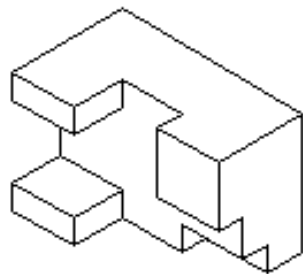
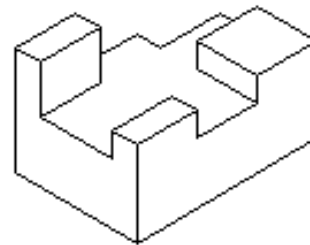
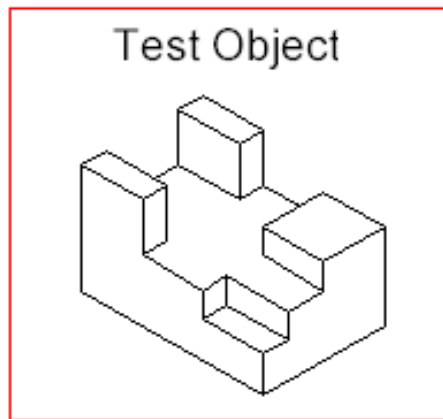


C



D

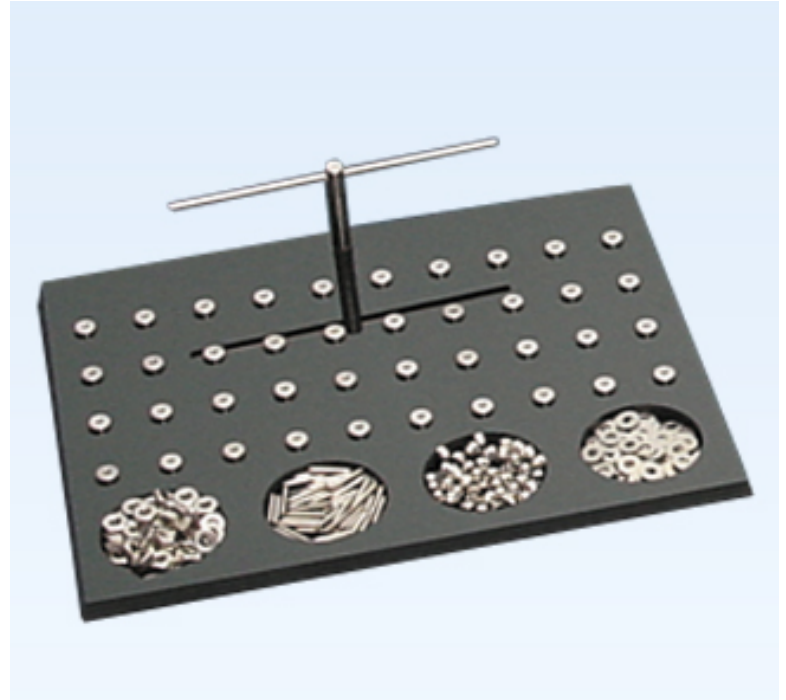
# Spatial Relations Test Question



# Types of Selection Tests (cont' d)

- Tests of Physical Performance & Motor Abilities
  - Purdue Pegboard
  - Crawford Small Parts Dexterity Test
  - Minnesota Rate of Manipulation Test
  - Physical Agility Tests
  - Strength tests

# Manual Speed & Dexterity Tests

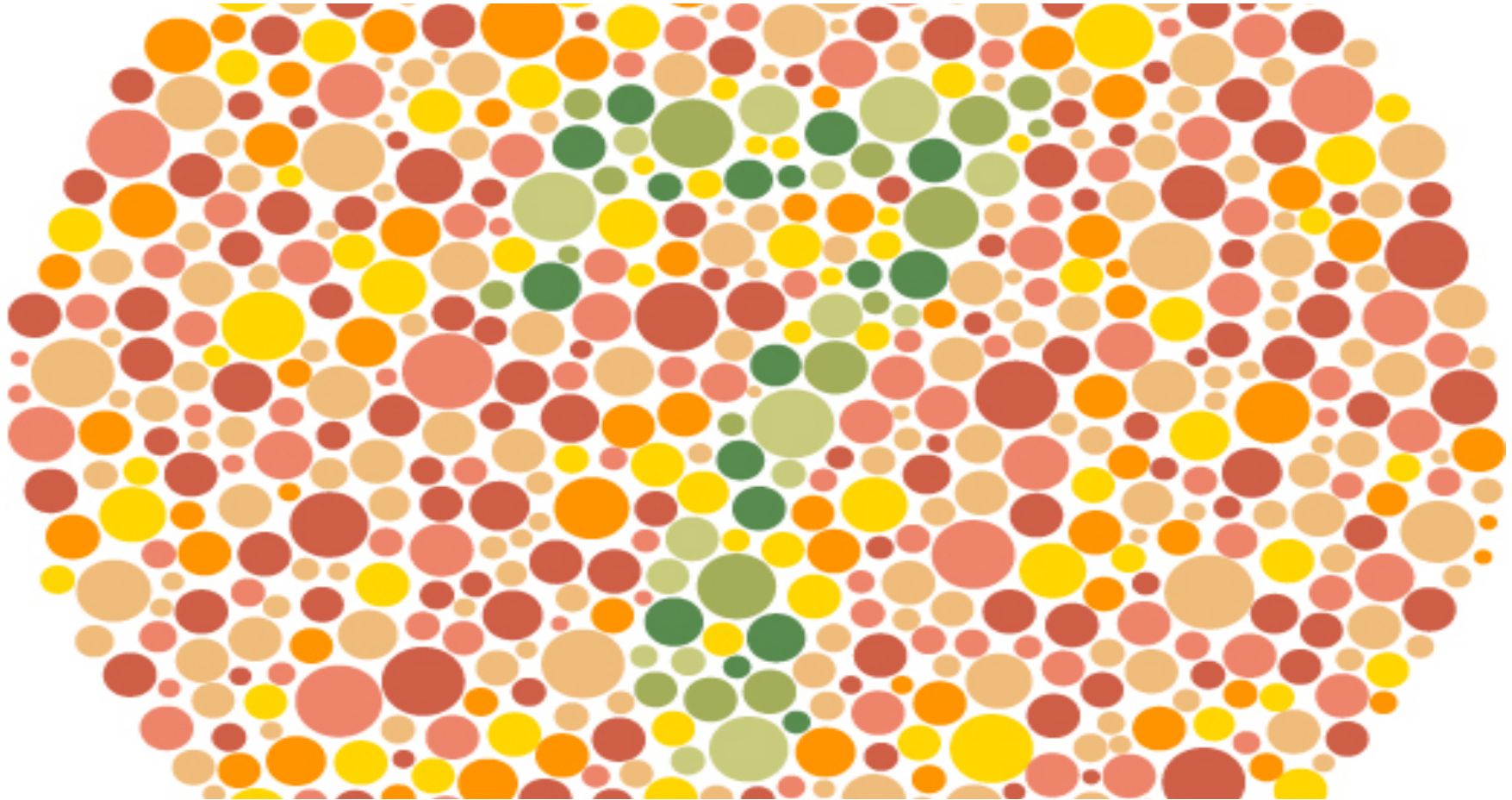




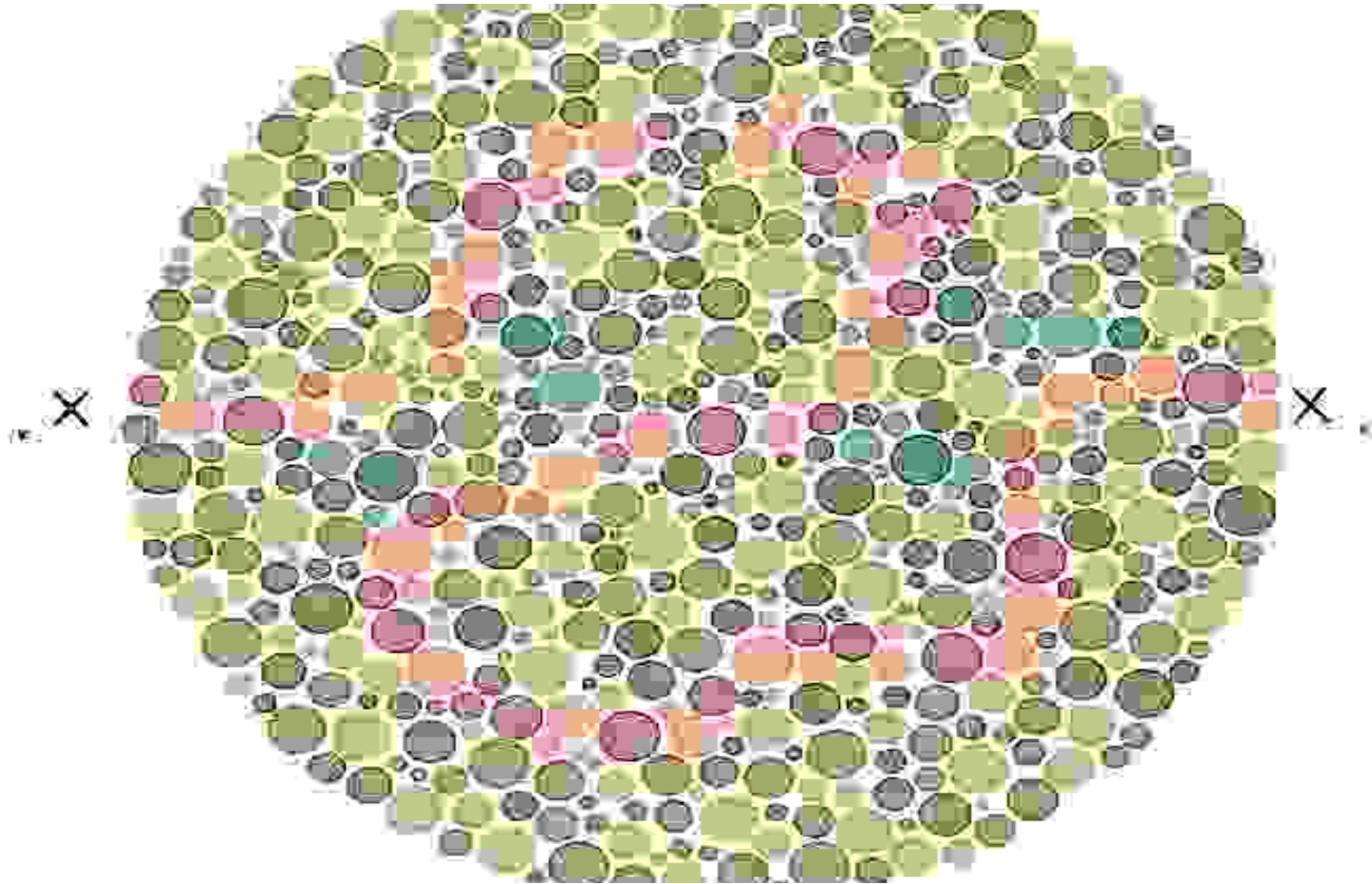
# Types of Selection Tests (cont' d)

- Achievement Tests (Aptitude + Training; language ability would be an example)
- Tests of Sensory Abilities
- Personality Tests
  - Global, Objective: MMPI-2, CPI
  - Projective: Rorschach
  - Single Trait:
    - The Five Factor Model (The Big 5)

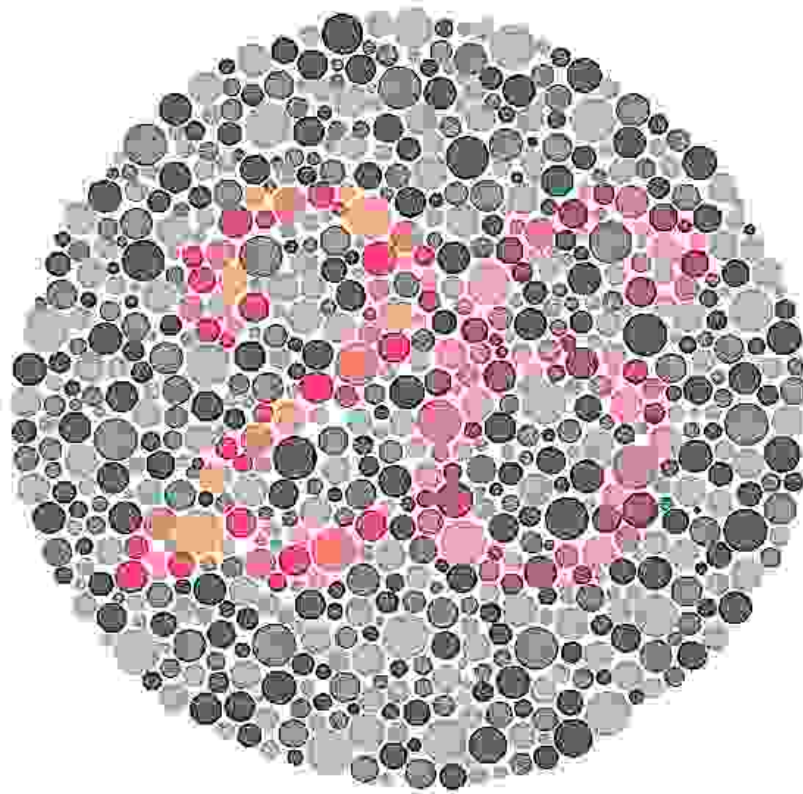
# Tests for Color-Blindness



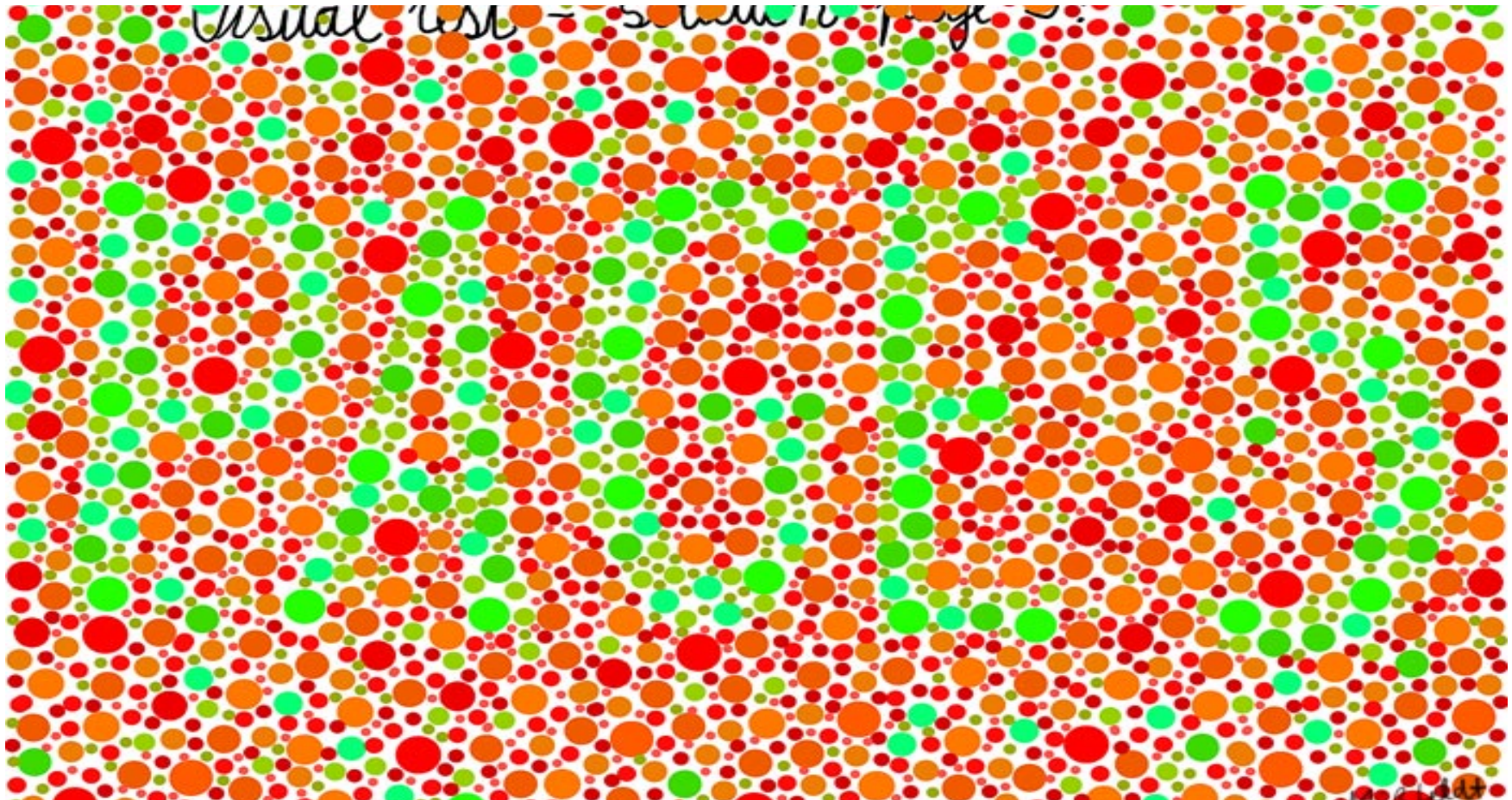
# Tests for Color-Blindness



# Tests for Color-Blindness



# Tests for Color Blindness





# The “Big Five” Personality Traits



Extraversion

Agreeableness

Conscientiousness (Will to Achieve)

Neuroticism (Emotional Stability)

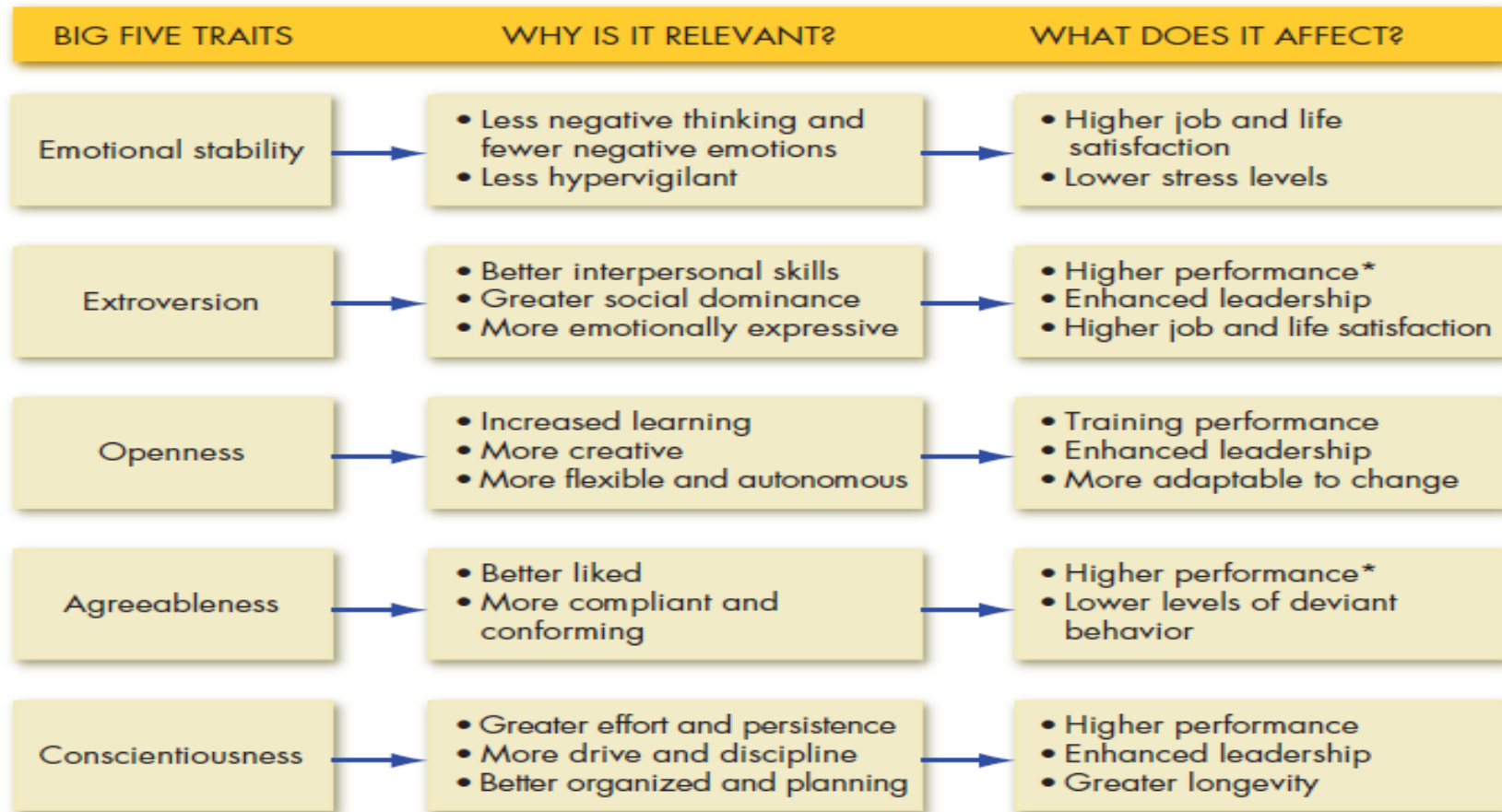
Openness to Experience

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# How The Big Five Traits Predict Behavior At Work

Exhibit 5-2

Model of How Big Five Traits Influence OB Criteria





# Some Other (Non-Test) Predictors

- Interviews
- Letters of Reference & Recommendation
- Biodata (Weighted Application Blanks (WAB))
- Academic/Scholastic Success & Achievement
- Assessment Centers

# Why are traditional interviews so poor at predicting job success?

- A lack of job-relatedness in interviews
- Subjective Interviewer Biases
  - Primacy Effects
  - Contrast Effects
  - Negative Information Bias
  - Interviewer-Interviewee Similarity
  - Stereotyping
  - Interviewee Appearance
  - Nonverbal Communication

# Patterned (Structured) Interviews



- Interviewer follows a predetermined series of questions
- There is a written rating of each answer immediately after question
- Allows systematic comparison of applicants
- Keeps interview on job related issues
- Providing interviewer with samples of “good” & “bad” answers allows more objective scoring
- May include “critical incident” questions like those used in situational interviews

# Top 10 Situational Interview Questions

- Describe the ideal working environment
- Share with me an idea or improvement you implemented that made a difference.
- Describe the toughest challenge you ever faced and how you worked through it
- Tell me about a time when you had to stick by a decision you made even though it made you unpopular.
- Discuss a situation during the past year in which you had to deal with an upset customer or coworker.
- Describe the most difficult boss you worked for and how you dealt with them.
- What would you do if the priorities on a major project you were working on were suddenly changed
- Tell me about a time when your work was criticized.
- Tell me about a time you went above and beyond the call of duty to get something done or resolve a problem.
- Give me an example of an important goal you set and describe your progress in reaching that goal.

## Typical Corrected Validity Coefficients for Selection Techniques

Method	Validity		Method	Validity
Structured Interview	.57		College grades	.32
Cognitive ability	.51		References	.29
Job knowledge	.48		Experience	.27
Work samples	.39		Conscientiousness	.24
Assessment centers	.38		Unstructured interviews	.20
Biodata	.34		Interest inventories	.10
Integrity tests	.34		Handwriting analysis	.02
Situational judgment	.34		Projective personality tests	.00

# Some Other (Non-Test) Predictors

- Interviews
- Letters of Reference & Recommendation
- Biodata (Weighted Application Blanks (WAB))
- Academic/Scholastic Success & Achievement
- Assessment Centers

# Letters of Reference/Recommendation

## Job recommendation letter sample

### *Recommendation for a special position*

HARCOURT MANUFACTURING CO.  
29 BOYLSTON STREET  
BOSTON, MASS.

October 10, 1921.

Mr. Gordon Edwards,  
48 Tremont Street,  
Boston, Mass.

Dear Mr. Edwards:

At luncheon last Wednesday you mentioned that you were in need of another advertising writer. If the position is still open, I should like to recommend Mr. Bruce Walker.

When I first met Mr. Walker he was with Bellamy, Sears & Co., Boston, and was doing most of their newspaper advertising. His work was so good that I offered him a position as advertising writer with us. He accepted, with the approval of Bellamy Sears & Co., and has been with me for the last three years. He has written for us some of the best drawing copy that we ever used, and his work has been satisfactory in every way. He is original and modern in his advertising ideas, and knows how to express them forcefully but without exaggeration. His English is perfect.

I shall greatly regret losing Mr. Walker, but I cannot advance him above his present position, and I agree with him that he is equal to a bigger position than he has here. I hope you can give him the opportunity that he seeks. If you will see him personally, you will oblige both him and me.

Very sincerely yours,

B. A. Yeomans.

# The Biodata Approach

## (Weighted Application Blanks (WABs))



Application for Employment



Position You Are Applying For \_\_\_\_\_ Desired Salary \_\_\_\_\_

Date Available for Work: \_\_\_\_\_

PERSONAL INFORMATION			
Last Name	First Name	Middle	
Address	City	State	Zip
Home Phone: _____	Cell Phone: _____	Email address: _____	
Social Security Number: _____			
Are you a U.S. Citizen? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Have you ever been convicted of a felony? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If selected for employment are you willing to submit to a pre-employment drug screening test? <input type="checkbox"/> Yes <input type="checkbox"/> No			

EDUCATION				
School Name	Location	Years Attended	Degree Received	Major

Other training, certifications or licenses held: \_\_\_\_\_

EMPLOYMENT	
Employer: _____	Dates Employed: _____
Work Phone: _____	Pay Rate: \$ _____ to _____
Address: _____	
City: _____	State: _____ Zip: _____
Position: _____	
Duties Performed: _____	
Supervisors Name and Title: _____	
Reason for leaving: _____	
May we contact them? <input type="checkbox"/> Yes <input type="checkbox"/> No	

REFERENCES			
Name	Title	Company	Phone

**Acknowledgement and Authorization**

I certify that all answers given herein are true and complete to the best of my knowledge.

I authorize investigation of all statements contained in this application for employment as may be necessary in arriving at an employment decision.

In the event of employment, I understand that false or misleading information given in my application or interview(s) may result in discharge.

Signature of Applicant \_\_\_\_\_ Date \_\_\_\_\_



# Does Your G.P.A. Predict Job Performance?



# Assessment Center Techniques

- In-Basket Technique
- Simulations/Work Samples
- Leaderless Group Discussions (LGD)
- Business Games

# Evaluating Employee Performance



# What is the Purpose of the Appraisal?

- Feedback and training
- Personnel decisions
  - Raises
  - Promotions
  - termination decisions
- Research
- Legal or certification reasons

# Who Will Appraise Performance?

(It should only be people familiar with both the job & the employee)

- Upper management
- Direct supervisor
- Peers
- Subordinates
- Customers/the public
- Self

# 360° Feedback/Multiple-Source Feedback

- Use

- 34% of organizations (Mercer Consulting, 2013)
- SHRM Survey
  - 18% for nonexempt positions
  - 29% for exempt positions
  - 32% for executive level positions

- Suggestions

- 4-10 raters
- 15 minutes to complete
- Provide feedback within 6 weeks of evaluation



# Dimensions of Evaluation

- Traits
- Tasks
- Goals/Outcomes
- Contextual Performance
- Should dimensions be weighted?

# Assessing Production vs. Non-Production Jobs

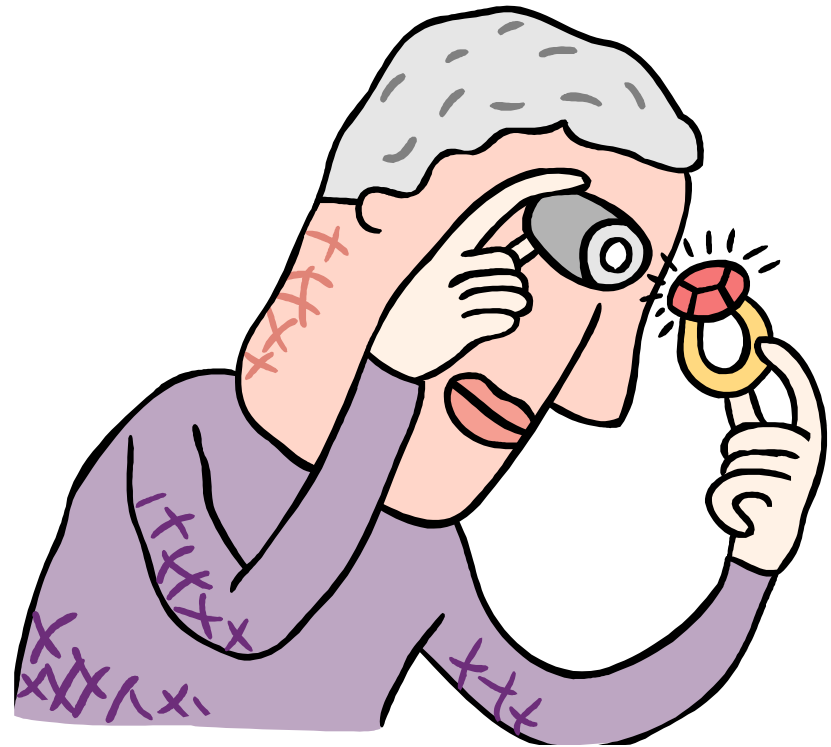
## The Issue of Hard vs. Soft Criteria





# How Will Performance be Appraised?

- Rating Scales
- Employee Comparisons
  - Rank order
  - Paired comparison
  - Forced distribution
- Results
  - Quantity
  - Accidents
  - Absenteeism
  - Tardiness
- Subjective Ratings



# Types of Rating Scales

- Performance based (Extent to which expectations have been met)
  - exceeds expectations
  - meets expectations
- Normative based (Comparison to other employees)
  - above average
  - average
- Frequency based
  - always
  - sometimes



# Example of Scale Types

## Frequency

**Dimension: Refers to Customers by Name**

- Always
- Almost always
- Often
- Seldom
- Never

# Example of Scale Types

## Extent to Which Expectations were Met

### **Dimension: Refers to Customers by Name**

- \_\_\_ Greatly exceeds expectations
- \_\_\_ Exceeds expectations
- \_\_\_ Meets expectations
- \_\_\_ Falls below expectations
- \_\_\_ Falls well below expectations

# Techniques for Rating Performance

- Graphic Rating Scales
- Behavior-Based Rating Scales
  - Behavioral checklists
  - Behaviorally anchored rating scales (BARS)
  - Behavioral observation scales (BOS)
  - Mixed-standard scales
  - Forced choice scales

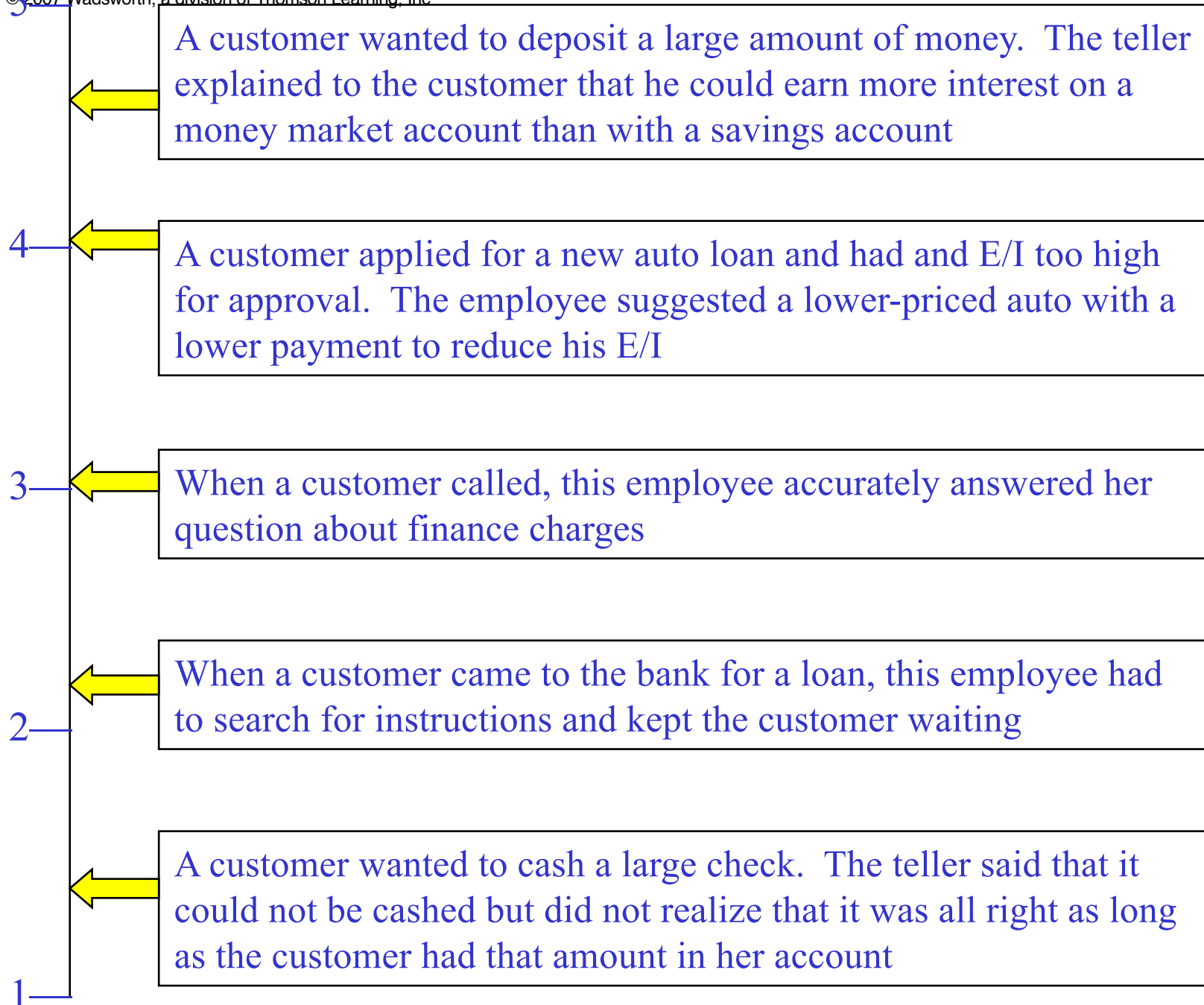
# Graphic Rating Scale Example

Job knowledge	Poor	1	2	3	4	5	Excellent
Patrol activity	Poor	1	2	3	4	5	Excellent
Decision making	Poor	1	2	3	4	5	Excellent
Use of weapons	Poor	1	2	3	4	5	Excellent

\*Taylor captions of rating scales specifically to the job:  
e.g, # of mistakes, quality of writing, etc

# Behaviorally Anchored Rating Scale (BARS)

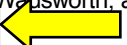
- Supervisor reports what he/she would “expect” to see from employee
- Employs unambiguous “critical incident” items that are good, medium, & bad
- More reliable and better accepted by workers
- More objective and provides better feedback
- Expensive to develop; work best with “observable” jobs



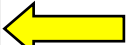


# Excellent

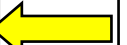
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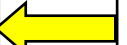
7—  By knowing the price of items, this checker would be expected to look for mismarked and unmarked items


 You can expect this checker to be aware of items that constantly fluctuate in price

6—  You can expect this checker to know the various sizes of cans carried by the store


5—  When in doubt, this checker would ask another clerk if an item is taxable

4—  This checker can be expected to verify with another checker the discrepancy between the shelf price and the marked price before ringing up that item

3—  When operating the “quick check line,” this checker can be expected to check out customers with too many items

2—  You could expect this checker to ask the customer the price of an item that he/she does not know

 This checker may be expected to linger in long conversations with a customer or another checker

1—  In order to take a break, this checker can be expected to block off the checkstand with people in line

# POOR

**Please rate the employee's *Customer Service* using the following scale.**

*Exceeds  
Acceptable  
Level of  
Performance*

**7**

Could be expected to explain the items on the menu and offer recommendations based on customers' stated tastes.

**6**

Could be expected to say to customers "how is your day?" and wish them a happy day when they leave the store.

**5**

Could be expected to ask customers if they want napkins with their meals.

*Meets  
Acceptable  
Levels of  
Performance*

**4**

Could be expected to make eye contact with customers during transactions.

**3**

Could be expected to say "here's your order" when handing them to customers.

**2**

Could be expected to talk on the phone while taking customers' orders.

**1**

Could be expected to yell obscenities at customers.

*Fails to Meet  
Acceptable  
Levels of  
Performance*

# Behavioral Observation Scale (BOS)

- Appraiser rates the extent to which examples of work behavior have been *actually observed* by supervisor.
- Relatively reliable, valid, & accepted by employees
- Difficult to use when jobs are not physically observable by boss.
- Time consuming and expensive

# Example of a Behavioral Observation Scale (BOS)

## **Job Knowledge**

1. \_\_\_ Is aware of current interest rates.
2. \_\_\_ Offers suggestions to customers about how they can make the most interest
3. \_\_\_ Knows various strategies for converting IRAs.

## **Employee Relations**

1. \_\_\_ Offers to help other employees when own workload is down.
2. \_\_\_ Praises other employee when they do well

## Mixed Standard Scales

- \*Rater is presented with statements like those in a checklist**
- \*Rater indicates whether person rated is better than, equal to, or worse than the behavior described.**

# Example of a Mixed-Standard Scale

		Rating
1.	Teller constantly argues with other employees (P)	
2.	Teller smiles at customers (A)	
3.	Teller asks customers how their families are doing (E)	
4.	Teller helps other employees when possible (A)	
5.	Teller is always friendly to other employees (E)	
6.	Teller asks customers what they want (P)	
<p>Items 1, 4, and 5 are from the Employee Relations dimension                      Items 2, 3, and 6 and from the Customer Relations dimension</p>		

# Check Lists

## **Weighted Check List**

- Check items that best (or least) describe the person to be rated.  
Each statement or item has a value; Sum items to get score.

## **Critical Incident Check List**

- Similar to above, but specific incidents are used rather than adjectives or statements

# Example of a Forced-Choice Scale

		Most	Least	
1.	a)	✓		Teller is always on time (neutral)
	b)			Teller is never short at end of the day (poor)
	c)		✓	Teller smiles at each customer (excellent)
2.	a)		✓	Teller usually cross-sells (excellent)
	b)	✓		Teller keeps work area neat and orderly (poor)
	c)			Teller is friendly to other employees (neutral)



# Employee Comparison Methods

- Rank Order
- Forced Distribution
- Paired Comparisons



# Simple Ranking Method

(Can be just one ranking of overall quality or multiple rankings as below)

	Rating Dimension			
Employee	Knowledge	Dependability	Quality	Total
Clark	1	1	1	1.00
Cochran	2	3	2	2.33
Bailey	3	2	3	2.67
Darden	4	5	4	4.33
Shapiro	5	4	5	4.67

# Example of a Forced Distribution

		Roberts		
		Winslet		
	Tilly	Basinger	Paltrow	
Spelling	Stone	Silverstone	Ryan	Hunt
10%	20%	40%	20%	10%
Terrible	Below Average	Average	Above Average	Excellent

# Example of Paired-Comparison Method

<b>Employees</b>
Green
Briscoe
Rey
Logan
Ceretta

<u>Paired Comparisons</u>	
<b>Green</b>	Briscoe
<b>Green</b>	Rey
<b>Green</b>	Logan
<b>Green</b>	Ceretta
<b>Briscoe</b>	Rey
<b>Briscoe</b>	Logan
<b>Briscoe</b>	Ceretta
<b>Rey</b>	<b>Logan</b>
<b>Rey</b>	Ceretta
<b>Logan</b>	Ceretta

<b>Scoring</b>	
Green	4
Briscoe	3
Rey	1
Logan	2
Ceretta	0

# Agreement Among Raters

## Conway and Huffcutt (1997) Meta-Analysis

Agreement Between	Correlation
Two supervisors	.50
Two peers	.37
Two subordinates	.30
Supervisor and peer	.34
Supervisor and subordinate	.22
Supervisor and self	.22
Peer and subordinate	.22
Peer and self	.19

# Factors that Affect Performance Ratings

- Personal characteristics of rater & employee; prejudices, stereotypes, etc
- All raters do not use the same standards
  - Central Tendency Error
  - Strictness or Leniency Error
- Primacy, Recency, & Contrast Effects
- Halo Effects
- Shortcomings of the Rating Instrument Used
- Employees being evaluated with different rating instruments

# Reducing Errors in Performance Appraisals

- Keep Rating Scales to a Manageable Size
- Insure that each item on scale represents a single job activity
- Avoid ambiguous terms like “average”
- Insure that raters observe subordinates on a regular basis
- Keep number of persons evaluated by one rater to a reasonable number
- Insure that rating dimensions are clear & relevant to job performance
- Train raters to be aware of biases & sources of error
- Use Multiple Raters

# Evaluating Performance Appraisal Methods





# Employment-at-Will Doctrine (versus being “Fired for Cause”)

This is a “private sector” problem, although there are *some* constraints



# Acceptable Reasons for Employee Termination

- Probationary Periods
- Violation of Company Rules
- Inability to Perform
- Reduction in Force

# Employee Training



# The Role of Training

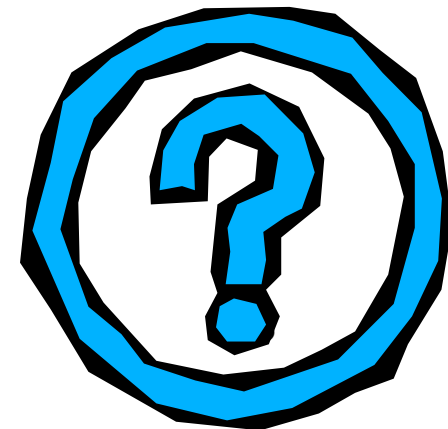
## Money Spent on Training

- According to the American Society for Training and Development (ASTD), in 2010
  - Organizations spend \$125 billion each year on training
  - 2.14% of payroll was spent on training
  - \$1,081 per employee
- Need to consider
  - Direct costs
  - Indirect costs
  - Hidden costs

# Needs Assessment: Analysis of Need

## Four Key Questions

- What are we trying to accomplish?
- Why do we think there is a need for our training program?
- Is there an actual need for our training program?
- Is our idea for a training program practical?



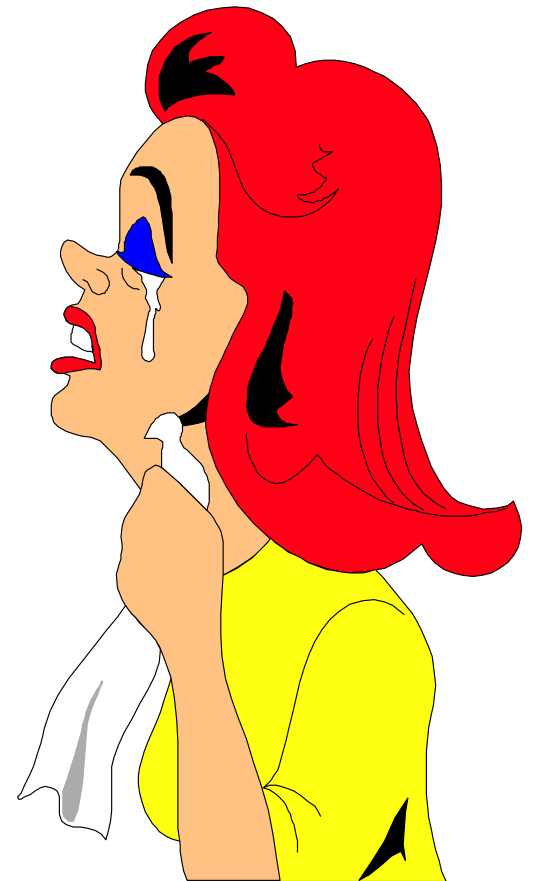
# Types of Needs Analysis

- Organizational Analysis
- Task Analysis
- Person Analysis

# Organizational Analysis

- which things are currently *helping* or *hurting* our training efforts?

- Do company policies get in the way?
- Economic costs/benefits
- Organizational climate
  - Employee readiness
    - Attitudes
    - Time
    - Commitment
  - Management support
- Resource analysis –are we supporting training efforts?



# Task Analysis

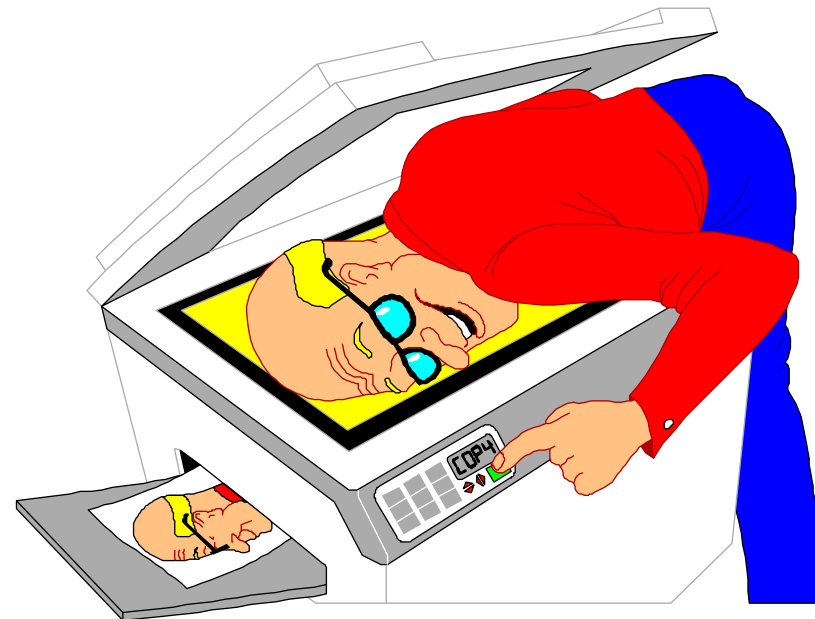
- use job analysis to figure out which skills need to be taught
- **Job analysis identifies**
  - Tasks
  - Conditions under which tasks are performed
  - KSAOs needed to perform tasks under those conditions
- **Task analysis identifies how tasks are learned**
  - Expected at time-of-hire
  - Easily taught on-the-job
  - Current training program
  - No training



# Person Analysis: How Much Training Does a Given Employee Need?

(“One size may not fit all!”)

- Performance appraisal scores
- Surveys
- Interviews
- Skill and knowledge tests
- Critical incidents



# Developing a Training Program



# Developing a Training Program

## Setting Goals and Objectives

- **What Do You Want to Accomplish**
  - Knowledge (general vs. expert, narrow vs. broad)
  - Skill (what level of proficiency?)
  - Motivation (How much and for how long?)
  - Appreciation (e.g., diversity)

# Developing a Training Program

## Setting Goals and Objectives

- Goals should state
  - What learners are expected to do
  - The conditions under which they are expected to do it
  - The level at which they are expected to do it
- Goals should be
  - Concrete
  - Attainable
- Can you accomplish your objectives?

# Developing a Training Program

## Setting Goals and Objectives

- Properly written objective statements include (Kroehnert, 2000):
  - Action word
  - Item
  - Condition
  - Standard

# Example

By the end of this training session, you will be able to

answer / customer questions about loan rates/

(action word)

(item)

without asking others / 90% of the time

(condition)

(standard)

•

# Example

By the end of this training session, you will be able to

balance / the teller drawer / without assistance /  
(action word) (item) (condition)

in 30 minutes with no errors.  
(standard)

•

# Example

By the end of this training session, you will be able to

compute / adverse impact levels / using a calculator /  
(action word) (item) (condition)

with no errors.  
(standard)

-



# Choosing the Best Training Method

- **Classroom Training**
  - Lecture to *acquire knowledge* (live or video)
  - Case studies to *apply knowledge*
  - Simulation exercises to practice *new skills*
  - Role play and behavioral modeling to learn interpersonal skills
- **Distance Learning: May be “synchronous” or “asynchronous”**

(Gets around problem of all employees being in same location & moving at same pace)

- Books
- Videos
- Interactive video
- Programmed instruction
  - Web-based instruction (e-learning)
  - Computer-based instruction

# Choosing the Best Training Method

- On-the Job Training
  - Modeling
  - Job rotation
  - Apprentice training
  - Coaching
  - Mentoring
  - Performance appraisal

# Motivating Employees to Learn During Training



# Provide Incentives



# Ensuring Transfer of Training

## Five Strategies

- Use realistic training programs
- Have opportunities to practice work-related behavior during the training
  - Overlearning
- Provide employees with the opportunity to apply their training
- Ensure management is supportive of the training
- Have employees set goals

# Evaluation of Training Results



# The Physical Design of Workspaces



# The Physical Design of Workspaces



*office faq*

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# Psychology in Workplace Design

- Human Factors & Ergonomics
- Ambient Effects on Work Performance
- Architecture & Behavior
- The psychological importance of work environments (status, privacy, etc)

# Human Factors Psychology

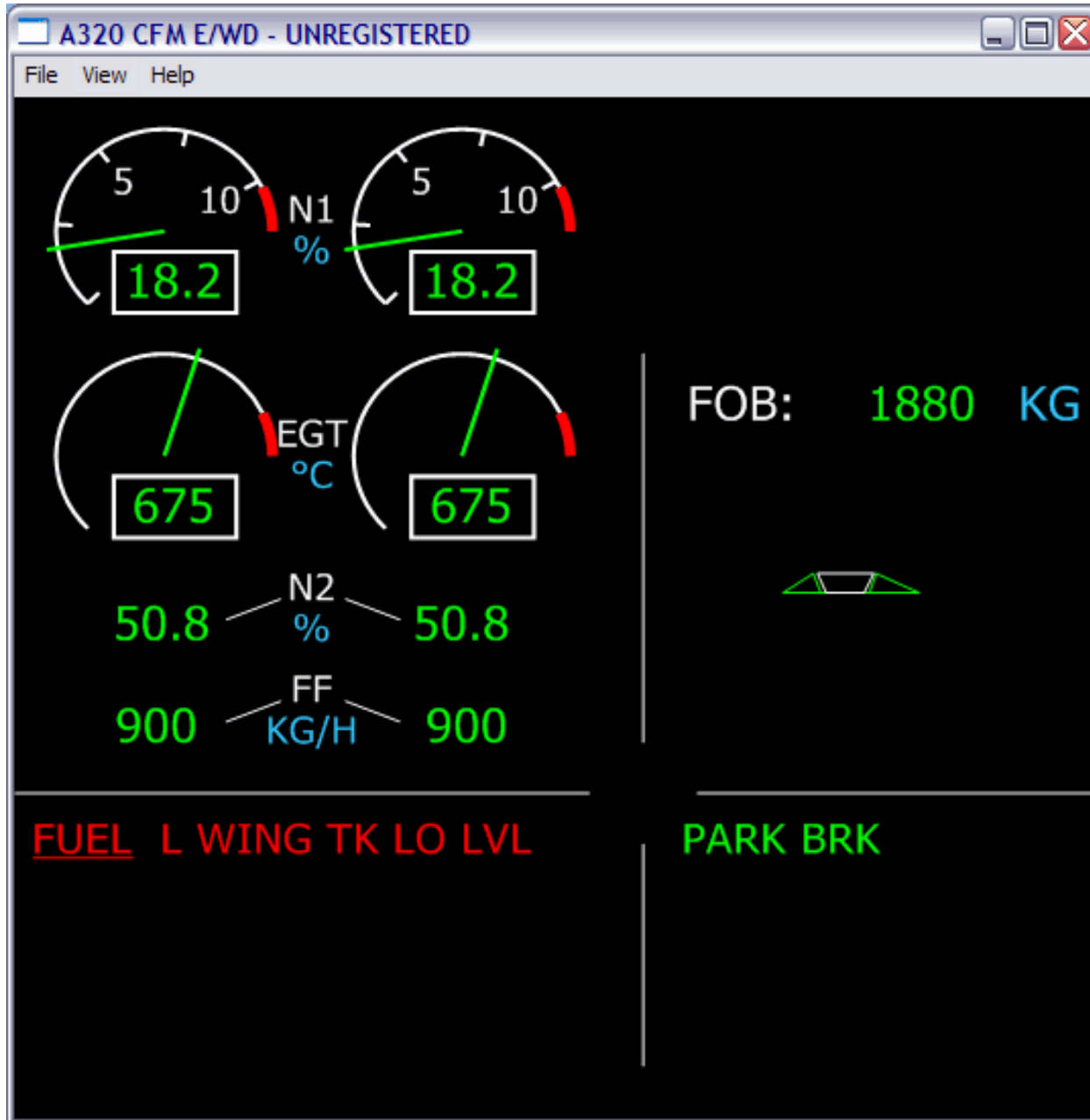
## Human Factors Psychology

- ▶ Human factors specialists seek to understand the human-machine relationship in various environments
- ▶ Design work environments and control panels for equipment in ways to reduce mistakes and decrease work stress
- ▶ Robotics in the worksite is one newer challenge for human factors specialists; also distance education

# Human Factors Psychology



# Human Factors Psychology



# Human Factors Psychology



# Human Factors Psychology



# Ergonomics



# Ergonomics





# Ergonomics



# Ergonomics

9 out of 10 people  
suffer from pain linked to the way  
they work at their desks

[LEARN MORE](#)



# Ergonomics



# Ergonomics



# Ergonomics

www.casm.in

## Office Ergonomics

### ✓ Right

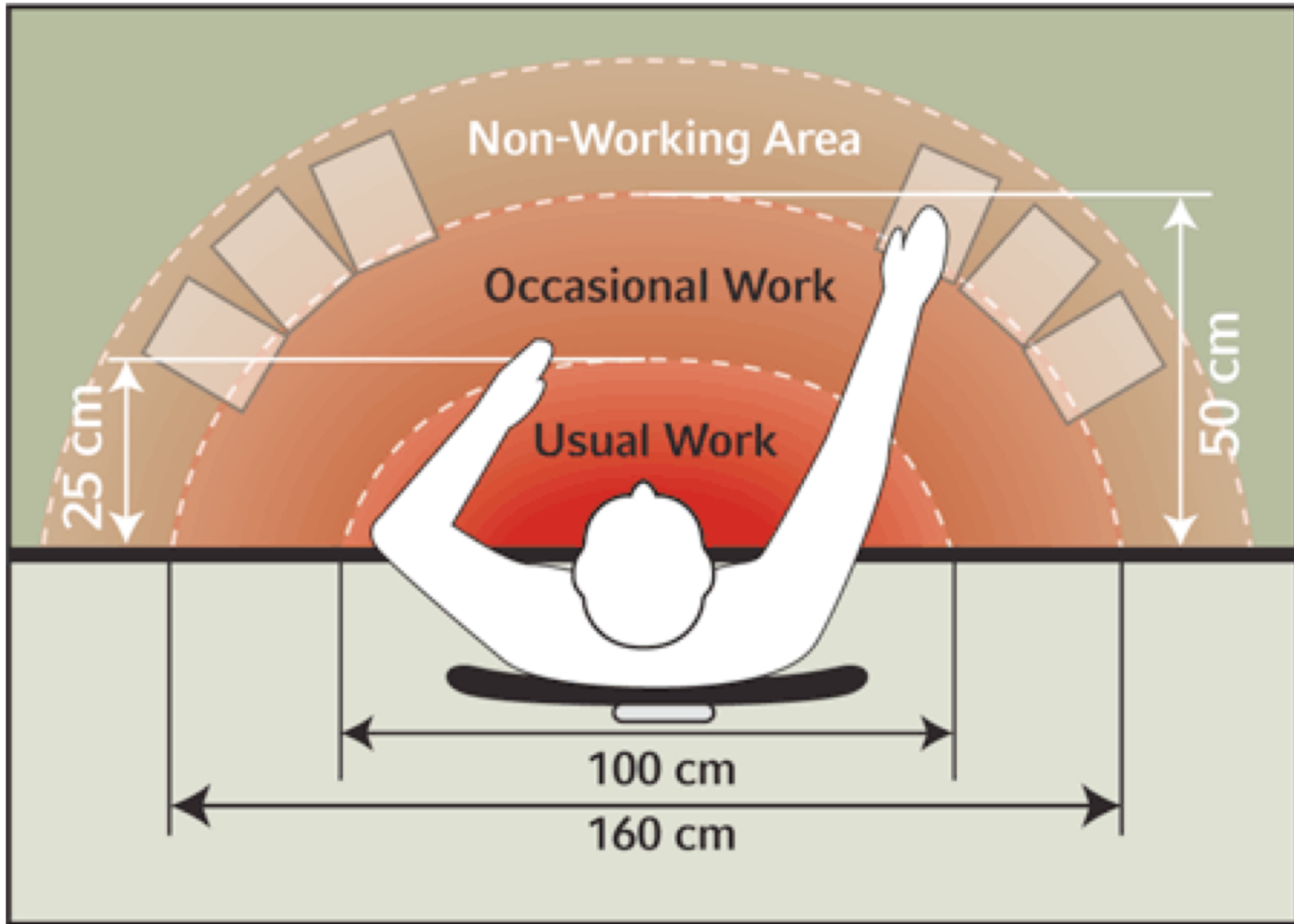
- ✓ Head up
- ✓ Shoulders relaxed
- ✓ Back erect and supported
- ✓ Eyes looking forward most of the time
- ✓ Hands in line with the forearms
- ✓ Monitor approximately at eye height and an arms distance away.
- ✓ Reference material is easy to look at
- ✓ Feet flat on floor
- ✓ Only moderate pressure at the front of the seat cushion

### ✗ Wrong

- ✗ Neck twisted to look at monitor
- ✗ Monitor not positioned head on
- ✗ Cacti grow well in hot, dry environments
- ✗ keyboard at an angle, increasing angle at wrist
- ✗ Incorrect positioning of desk lamp
- ✗ using mouse too far away causing strain on shoulder
- ✗ Back not supported by the backrest
- ✗ Feet not firmly on the floor
- ✗ Cushion pressing into underside of thigh

facebook.com/ihsnews

# Ergonomics



# Habitat Selection in Animals



Deer Mice

# Biophilia & the Green Experience

- Are human landscape preferences evolutionarily determined?

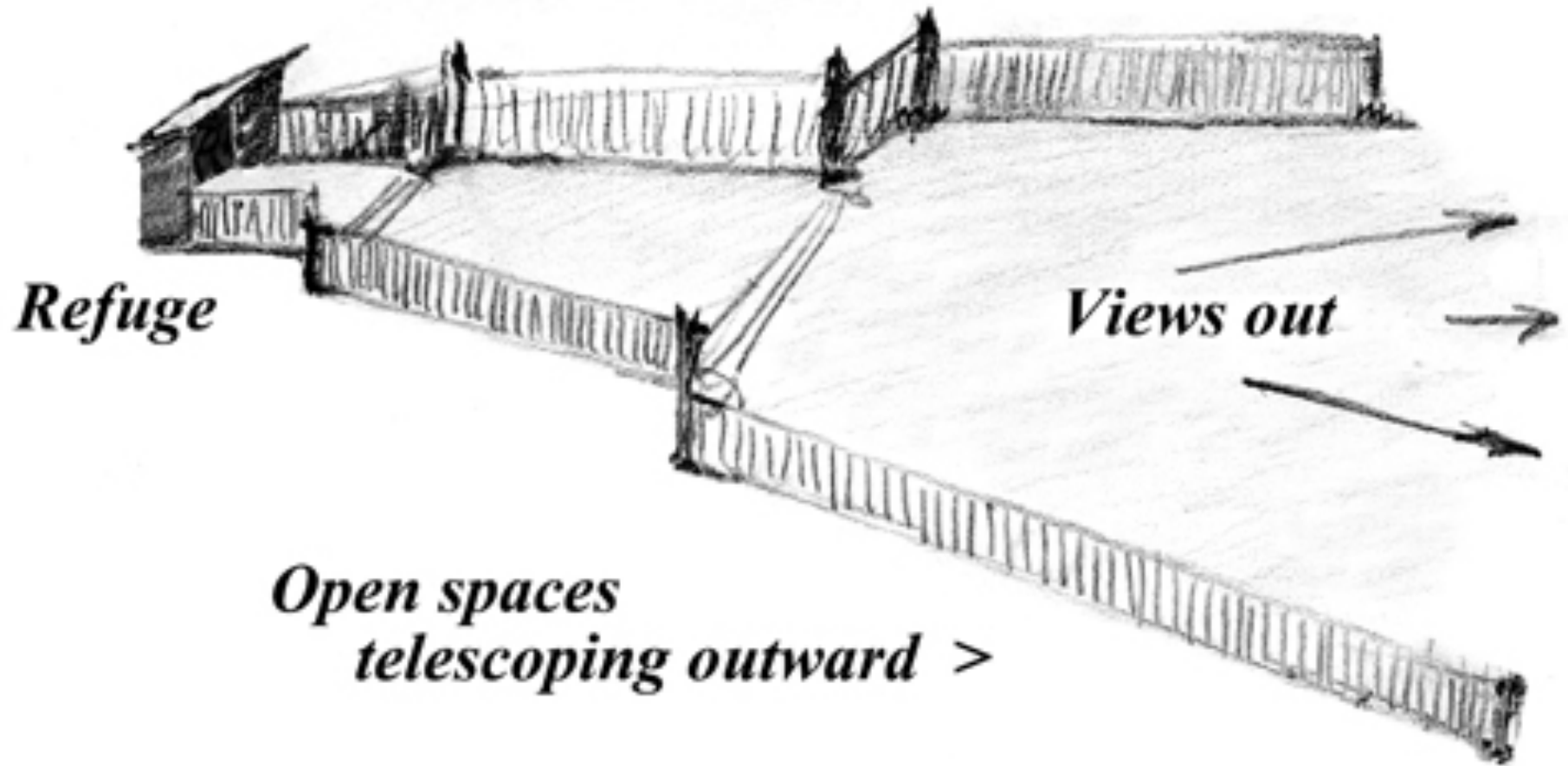




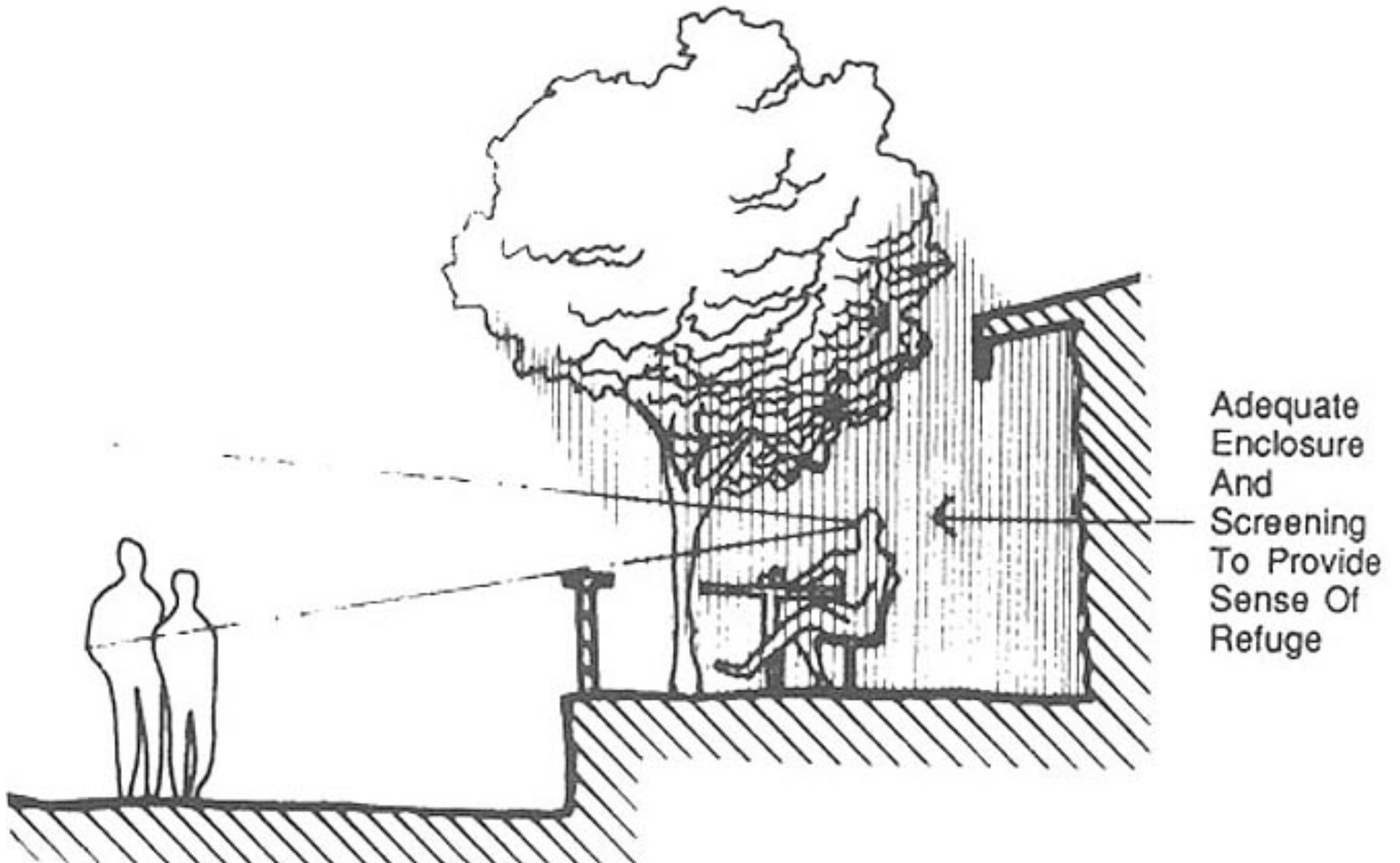
# The Evolution of Environmental Preferences



# Prospect & Refuge



# Prospect & Refuge



# Prospect & Refuge



# Prospect & Refuge



# Prospect & Refuge



# Prospect & Refuge



# Prospect & Refuge





# Prospect & Refuge



# Prospect & Refuge



# Prospect & Refuge



# Prospect, Refuge, & Perceptions of Safety

- SAFE =
  - Hi prospect for victim, low refuge for offender
- UNSAFE =
  - Lo prospect for victim, hi refuge for offender



# Prospect, Refuge, & Perceptions of Safety

- SAFE =
  - Hi prospect for victim, low refuge for offender
- UNSAFE =
  - Lo prospect for victim, hi refuge for offender



# The Physical Environment & Work Performance

- Types of Work:
  - Clerical Tasks: typing, filing, checking numbers
  - Motor Tasks: lifting, turning, manipulation (often in response to a signal)
  - Mental Tasks: learning, recall, calculation, proofreading
  - Vigilance Tasks: monitoring, detecting irregularities
  - Dual Tasks: two things at once, with one usually being a vigilance task

# The Ambient Environment



# The Concept of “Environmental Load”

- The “information rate” of the environment
  - The amount of sensory stimulation





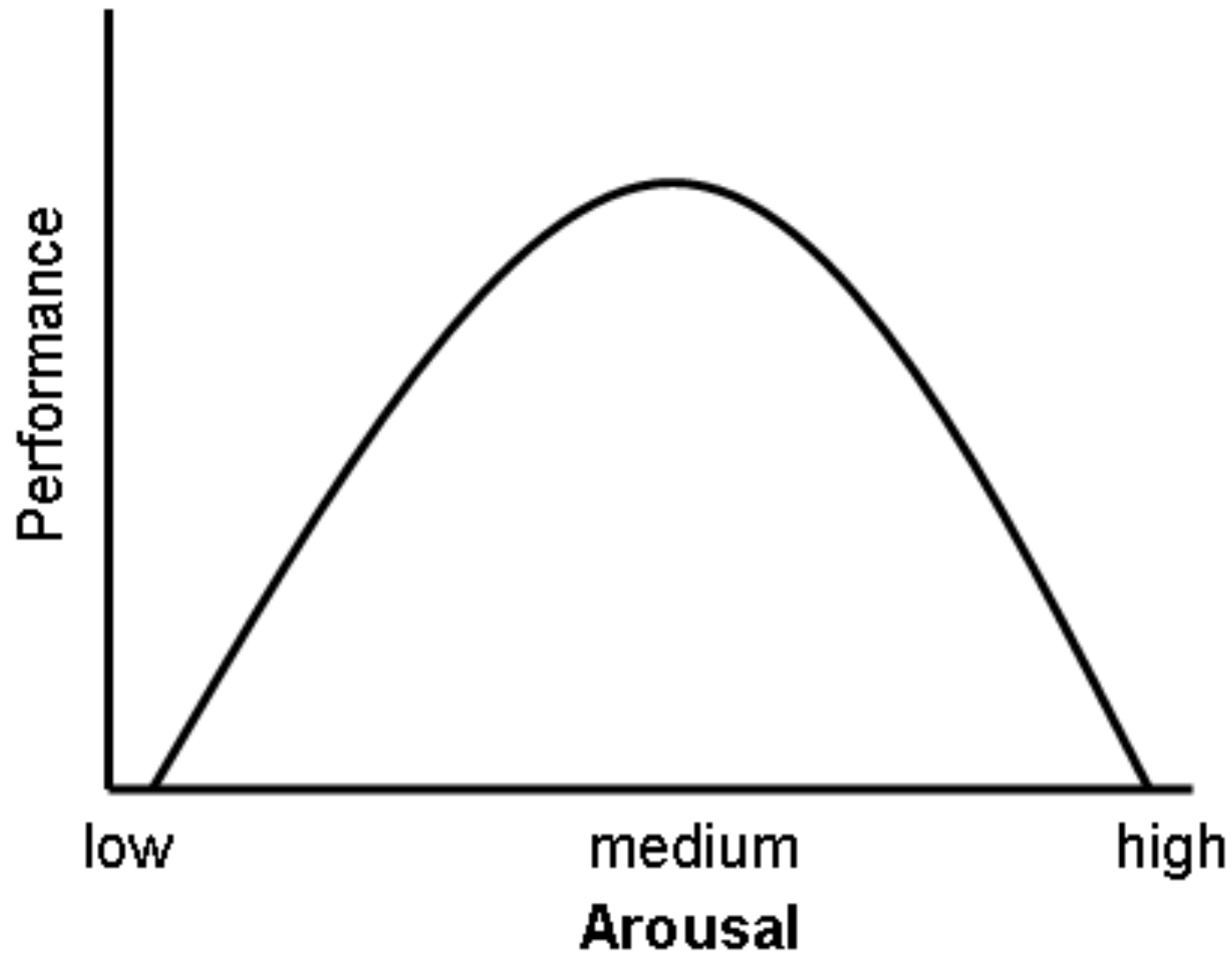
# Environmental Load Depends Upon Three Things:

- Intensity
- Novelty
- Complexity

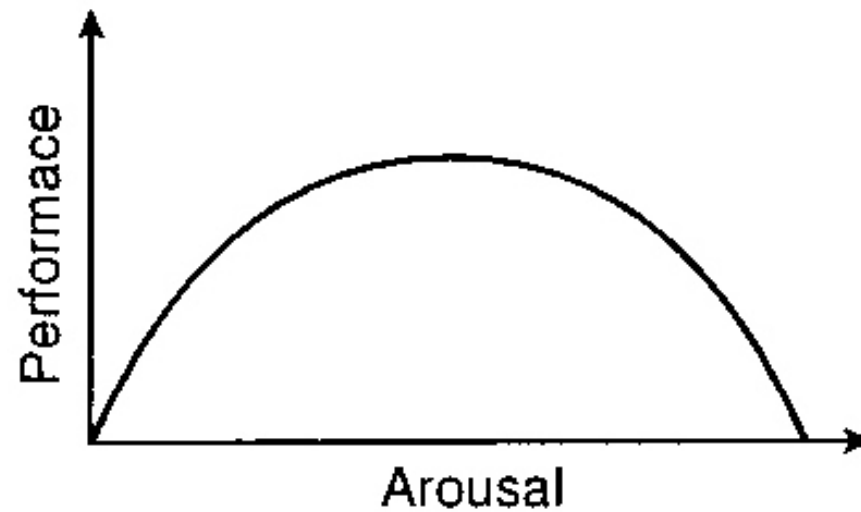
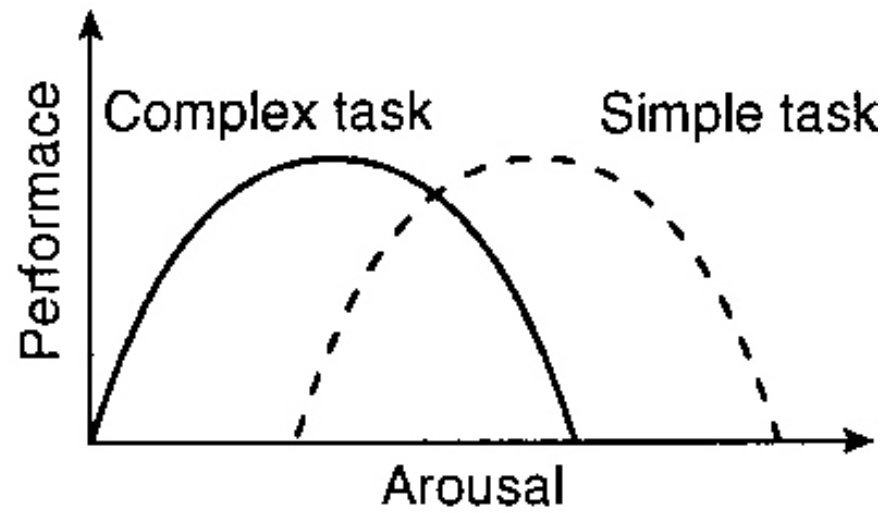


AS SEEN ON   
*The Pinnacle List*

# The Performance-Arousal Curve



# Performance-Arousal Curve



# The Physical Environment & Work Performance

Clerical Tasks

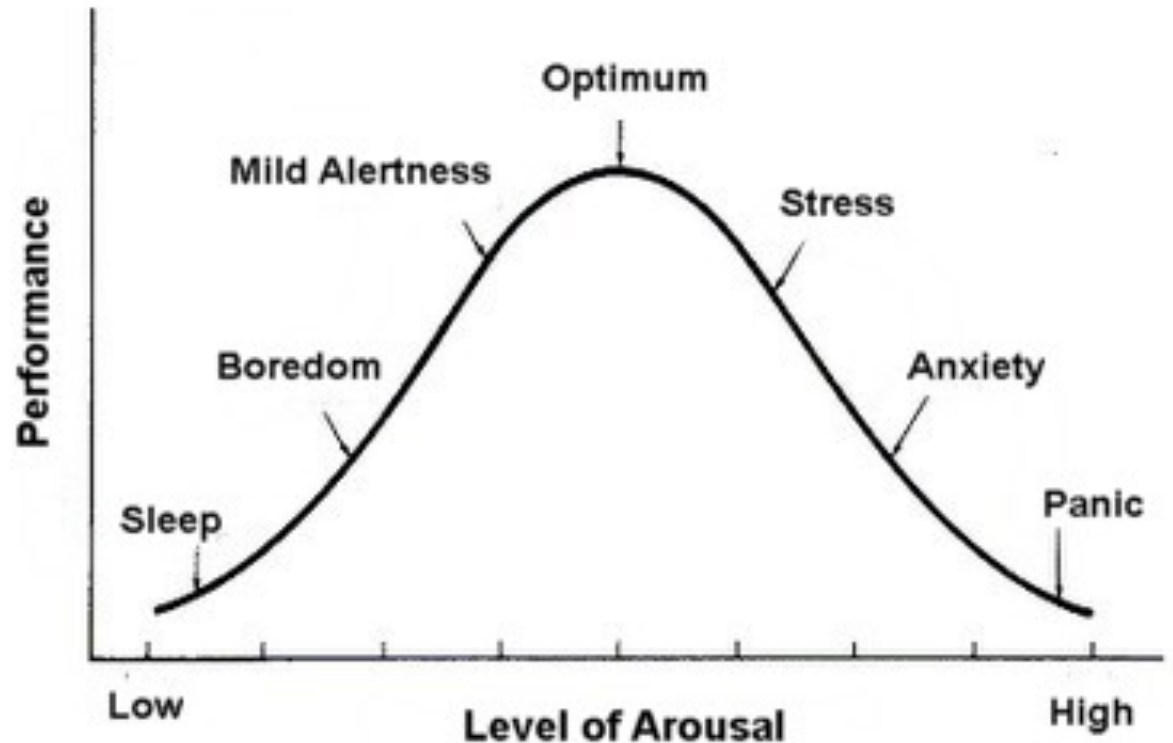
Motor Tasks

Mental Tasks

Vigilance Tasks

Dual Tasks

(usually vigilance + one)



# Arousal can be an Incentive



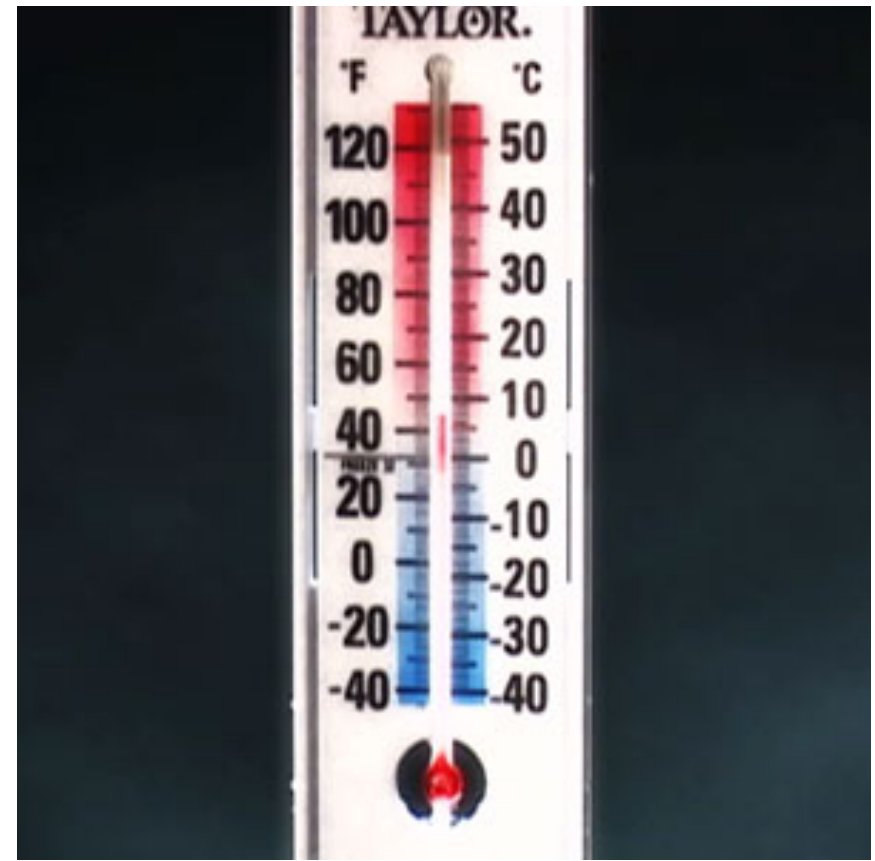
# Arousal can be a Drive



# Ambient Effects in the Workplace



# TEMPERATURE



## Ambient vs. Effective Temperature

Heat is especially problematic in cities  
(may be 10-20 degrees hotter)

Heat waves increase death rates; heat stress  
induces exhaustion, headaches, irritability,  
Heart attacks, coma.



# Illumination



# Effects of Illumination

- Strong preference for natural over artificial lighting
- When lighting is equal in all parts of a room, the room looks bigger.
- Turning down lighting lowers noise levels
- Light is especially important in work environments – especially for older workers.
- Table lamp lighting encourages interaction more than overhead lighting.
- Light is arousing, but darkness releases social inhibitions.
- The Moth Effect: People usually choose to sit facing the source of lighting.

# The Moth Effect



# Components of Color



Brightness: Intensity of Light

Hue: Wavelength of reflected light

Saturation: Amount of white light in stimulus

Brightness & saturation increase pleasure

Light & cool colors usually preferred over dark, warm colors

Warm colors are more arousing than cool colors  
(especially red, apparently!)

Lighter colored rooms appear more spacious

# Moods are attributed to colors

Blue = serene, soothing, calm, comfortable

Red = exciting, confident

Orange = distressed, upset

Black = despondent, powerful

Purple = dignified

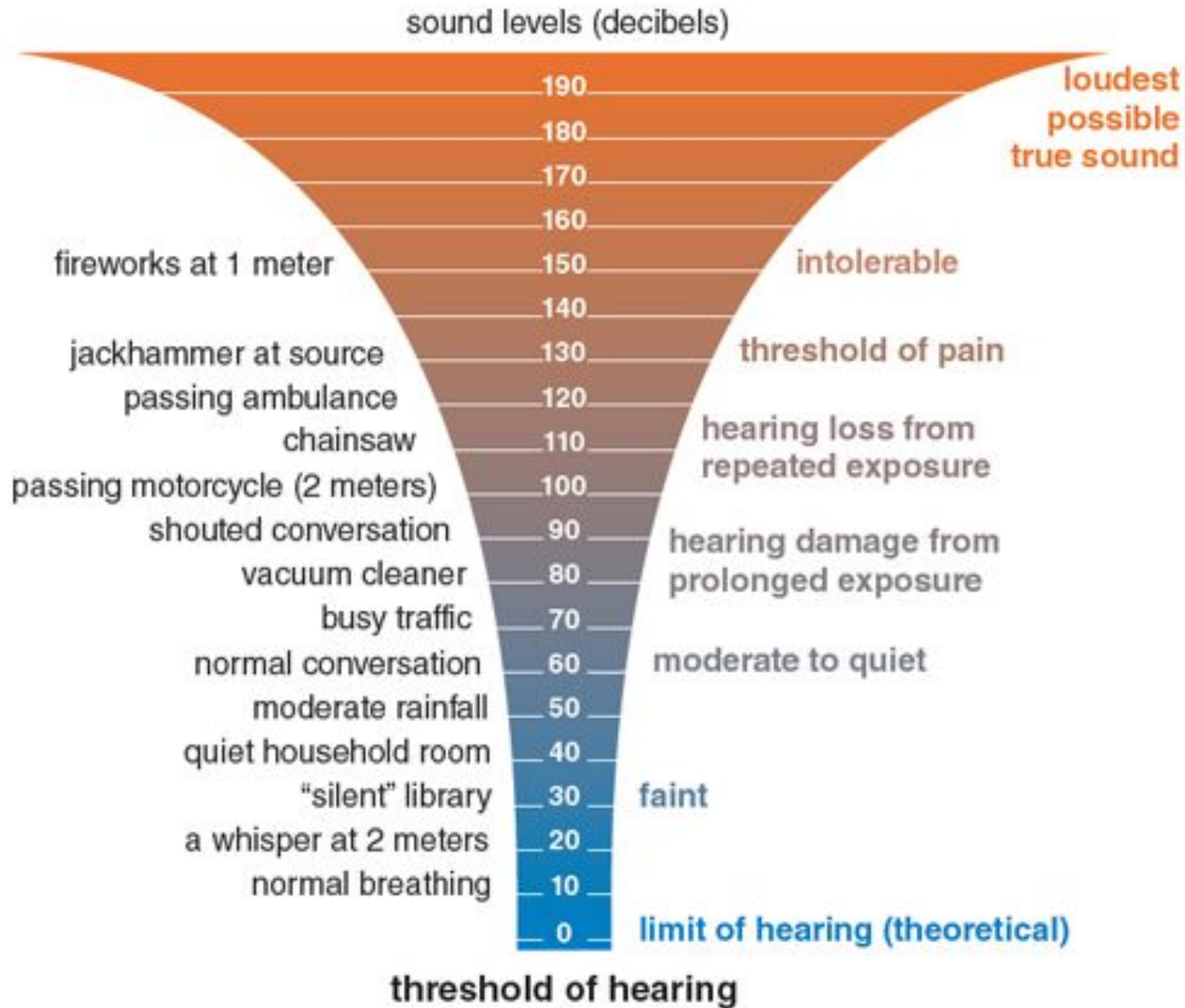
Yellow = cheerful

# Noise

- The most annoying kind of noise is:
  - Loud & intermittent
  - High Frequency
  - Intermittent
  - Uncontrollable



# Noise Intensity



# OSHA Guidelines for Noise Exposure

(Occupational Safety & Health Administration)

- Ear Protection required if noise exceeds:
  - 90 db for 8 hours
  - 92 db for 6 hours
  - 95 db for 4 hours
  - 97 db for 3 hours
  - 100 db for 2 hours
  - 102 db for 1.5 hours
  - 105 db for 1 hour
  - 110 db for .5 hour
  - 115 db for .25 hour



# Negative Effects of Prolonged Exposure to Noise

- Hearing Loss
- High Blood Pressure, Strokes, Ulcers
- Higher Admission Rates to Mental Hospitals
- Disruption of tasks requiring focused attention, memorization, or vigilance



## School or Homes in Flight Paths of Major Airports or near Elevated Trains:

- High Blood Pressure
- Lower Math Achievement Scores
- Less Persistence at Problem Solving

- Exposure to high levels of noise affects social behaviors
  - Less Altruism
  - More Aggression

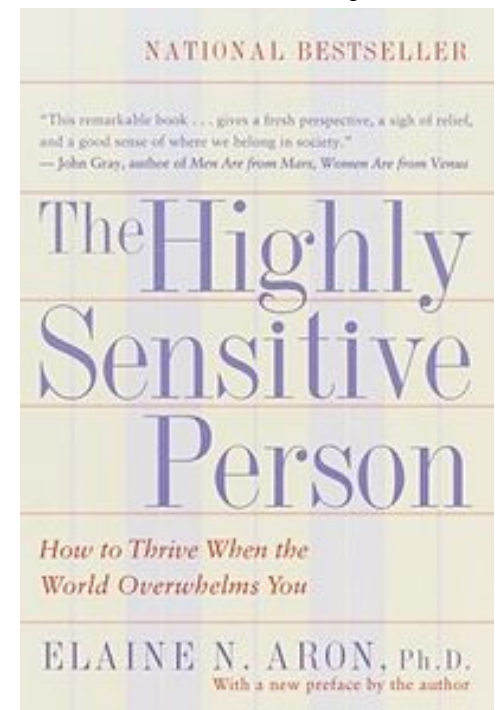
# Personality Mediates our Response to the Environment

## Relevant Single-Factor Measures of Personality:

- Sensation Seeking (arousal-seeking)
- Stimulus Screening (arousability)
- Sensitivity to Stimulation

# Sensitivity to Stimulation

- The “Highly Sensitive Person” Scale (HSP)
  - Aron & Aron, 1997
- Reflects individual differences in sensitivity to stimulation
  - Lower sensory thresholds
  - Related to Introversion



# Stimulus Screening & Arousability

(Mehrabian, 1976)

- “Screeners” versus “Nonscreeners”



# Sensation Seeking



# Biological Correlates of Sensation Seeking

- Strength of Initial Orienting Response
- Levels of Monoamine Oxidase (MASO) in brain
- Amount of Testosterone
- Genetics (identical twin studies)
- SS decreases with age



# Sensation Seeking Scale

(M. Zuckerman, 1971; 1974; 1979; 1983)

- There are Four Components:
  - Thrill & Adventure Seeking
  - Experience Seeking
  - Disinhibition
  - Boredom Susceptibility

# Sensation Seeking Scale

## EXHIBIT 1

### SAMPLE ITEMS FROM ZUCKERMAN'S SENSATION SEEKING SCALE

1. A I like "wild" uninhibited parties.  
B I prefer quiet parties with good conversation.
  2. A There are some movies I enjoy seeing a second or even a third time.  
B I can't stand watching a movie that I've seen before.
  3. A I often wish I could be a mountain climber.  
B I can't understand people who risk their necks climbing mountains.
  4. A I get bored seeing the same old faces.  
B I like the comfortable familiarity of everyday friends.
  5. A A sensible person avoids activities that are dangerous.  
B I sometimes like to do things that are a little frightening.
- (etc.)
-

# Environmental Stress

Occurs when the demands of the environment do not mesh with the capacity of individuals to deal with these demands



# Architecture & Behavior

## BEHAVIOUR DESIGN

3

Knowing how architecture affects our behaviour allows us to customize a building specifically for its users.



# Environmental Manipulations Change Human Behavior



# Architecture Sets up Expectations for Behavior

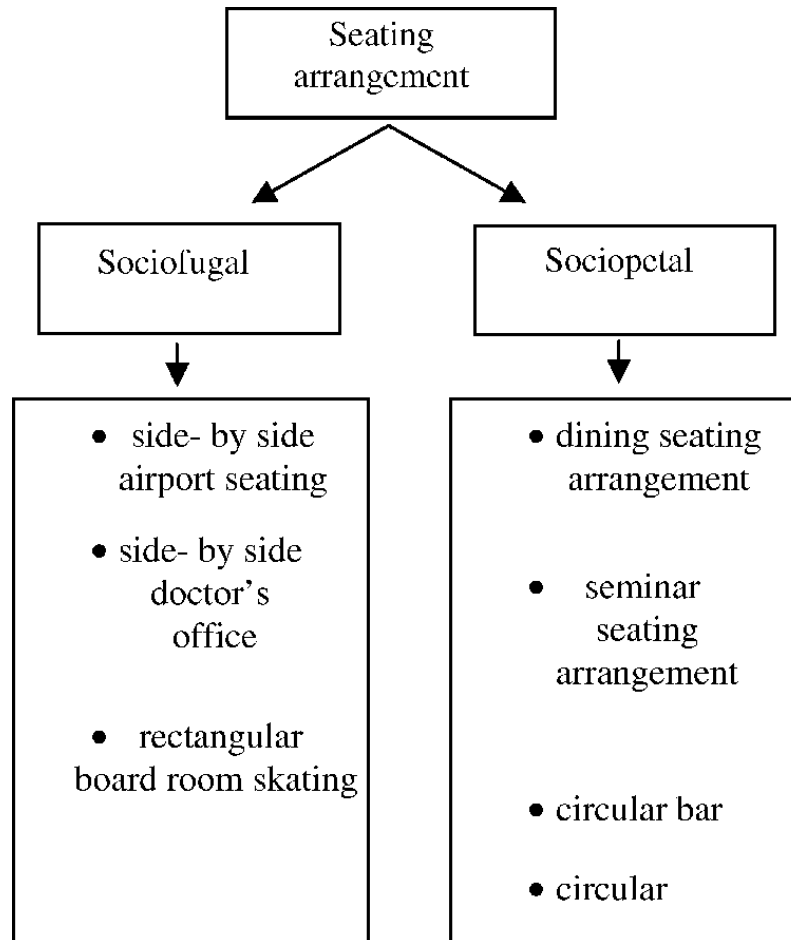


# Architecture Sets up Expectations for Behavior



# Architecture & Behavior

- Interactions in spaces are very much influenced by the physical arrangements of those spaces





# Sociopetal Seating



# Sociopetal Seating



# Sociofugal Seating



# Sociofugal Seating

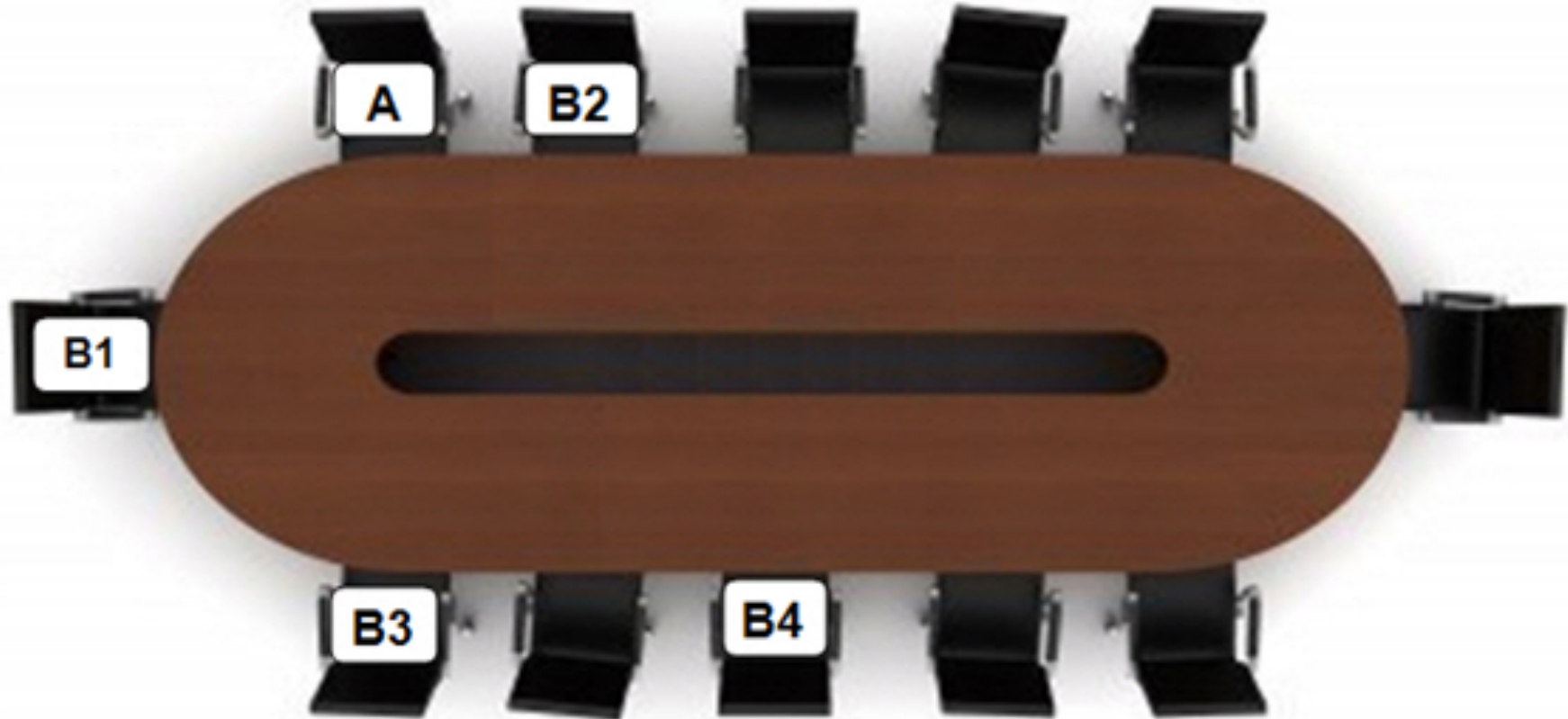


# Sociofugal Seating



Avoiding sociofugal space in favour of moveable seating in a coffee shop

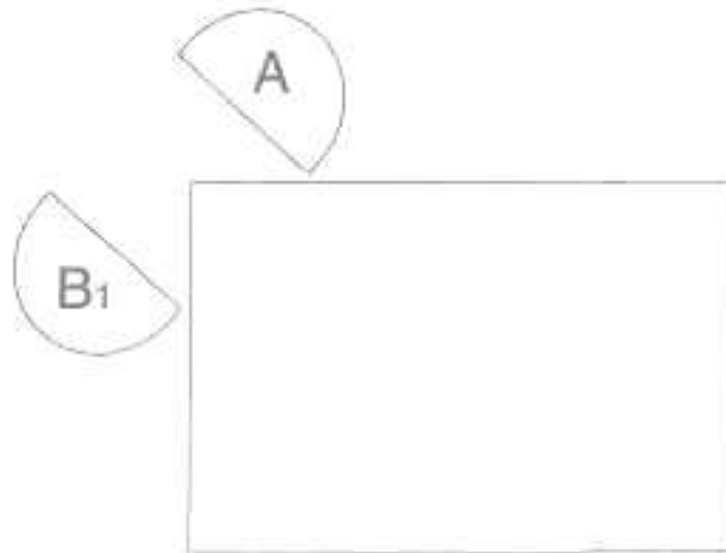
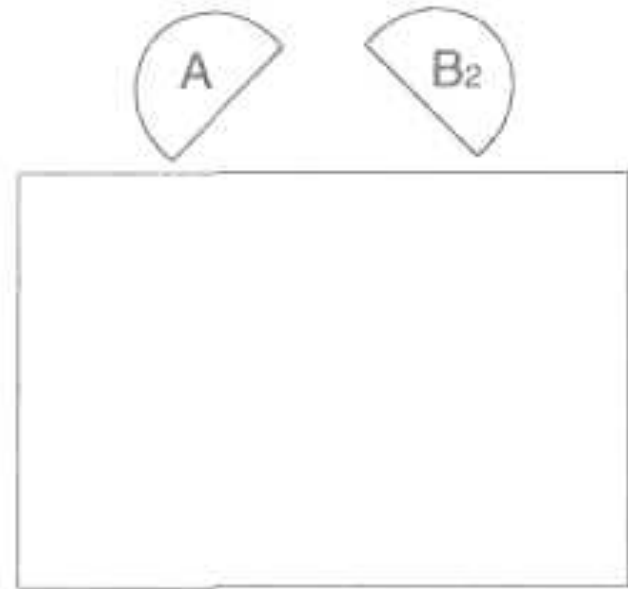
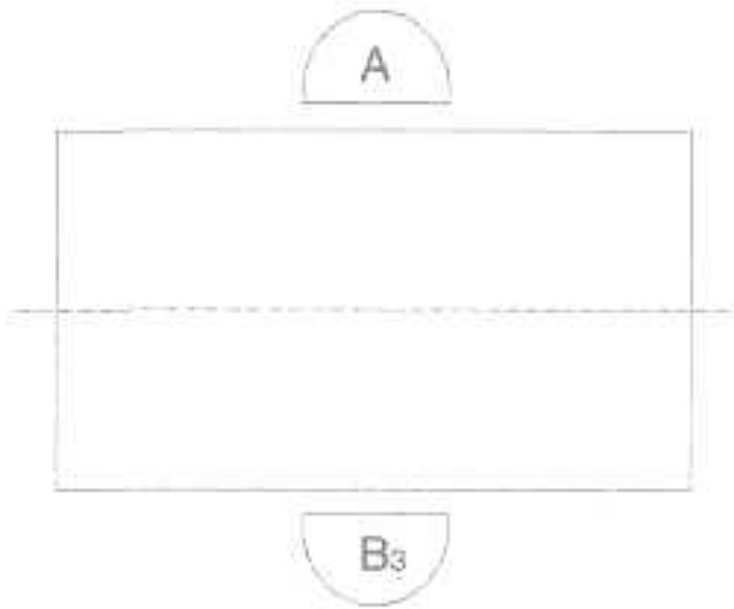
# Ecology of Seating at Tables



# Seating Positions at Rectangular Tables



# Seating Positions and Interaction





# Rooms: Architecture & Furnishings



# What Makes a Room seem Large or Small?

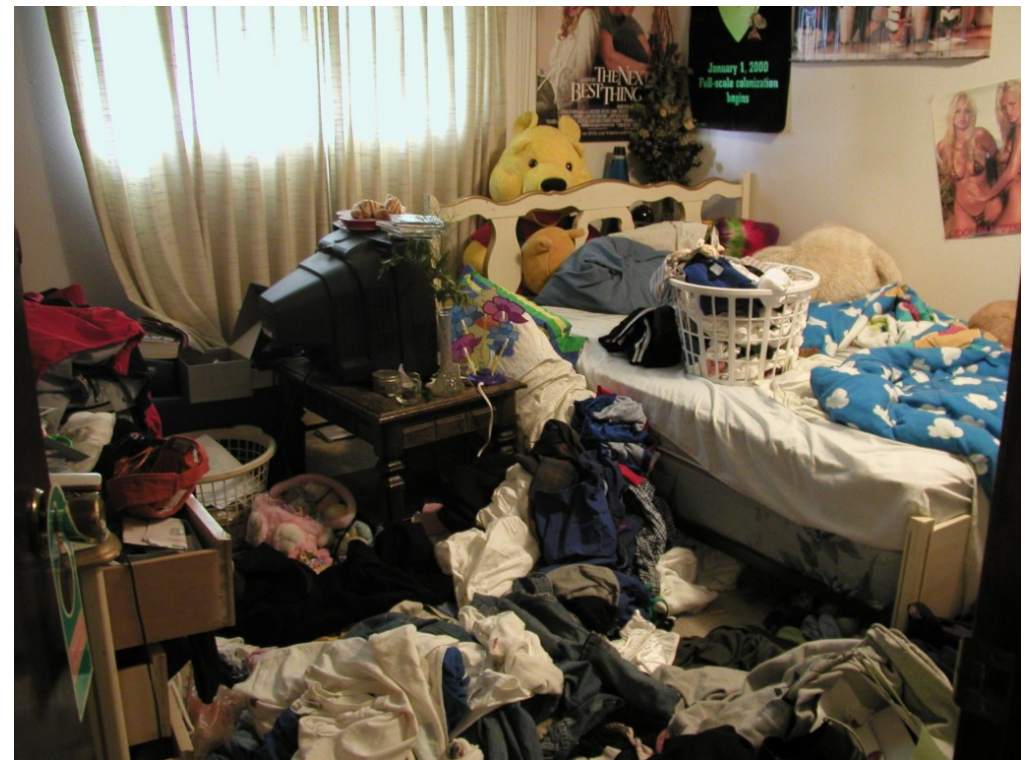


# What Makes a Room seem Large or Small?

- More furniture = smaller
- Messiness = smaller
- Rectangular room  $>$  square room of same size
- Light colored room  $>$  darker room
- Room appears larger when lighting is equal in all parts of the room.

# Rooms: Architecture & Furnishings

Our reactions to rooms matter -



# Outside windows are strongly preferred



# Office Design

- Designs
  - Open-Plan (landscaped) offices
    - bullpen design
    - uniform design
  - Cubicles
  - Traditional Private offices
- Research on open designs
  - decreased satisfaction
  - increased socialization
  - decreased costs



# Traditional Offices



\*More Privacy

\*Higher Satisfaction

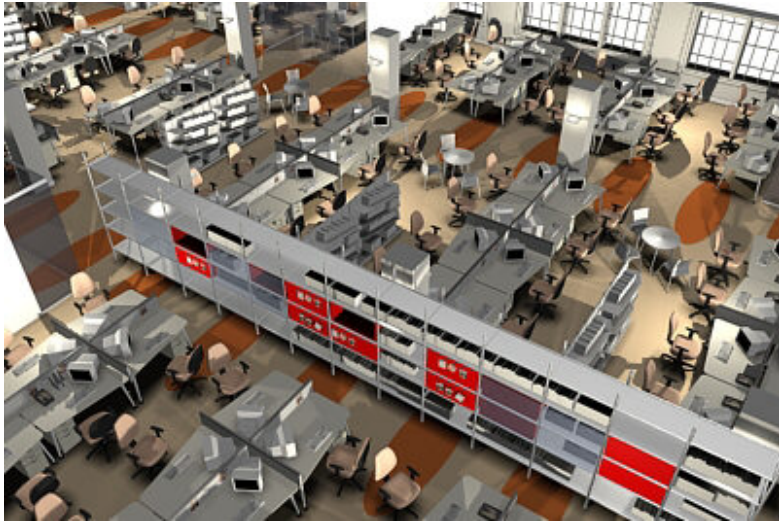
# Open-Plan Offices



- \*Less Privacy
- \*More Social Activity
- \*Noisier
- \*Flexible
- \*Low Cost
- \*Intended to foster communication & cohesion
- \*Social facilitation may help with simple tasks



# Open Plan Offices



# Variations on Open Plan Offices

- Cubicles
- Flex-Offices
  - “Hot Desking”
- Combi-Offices

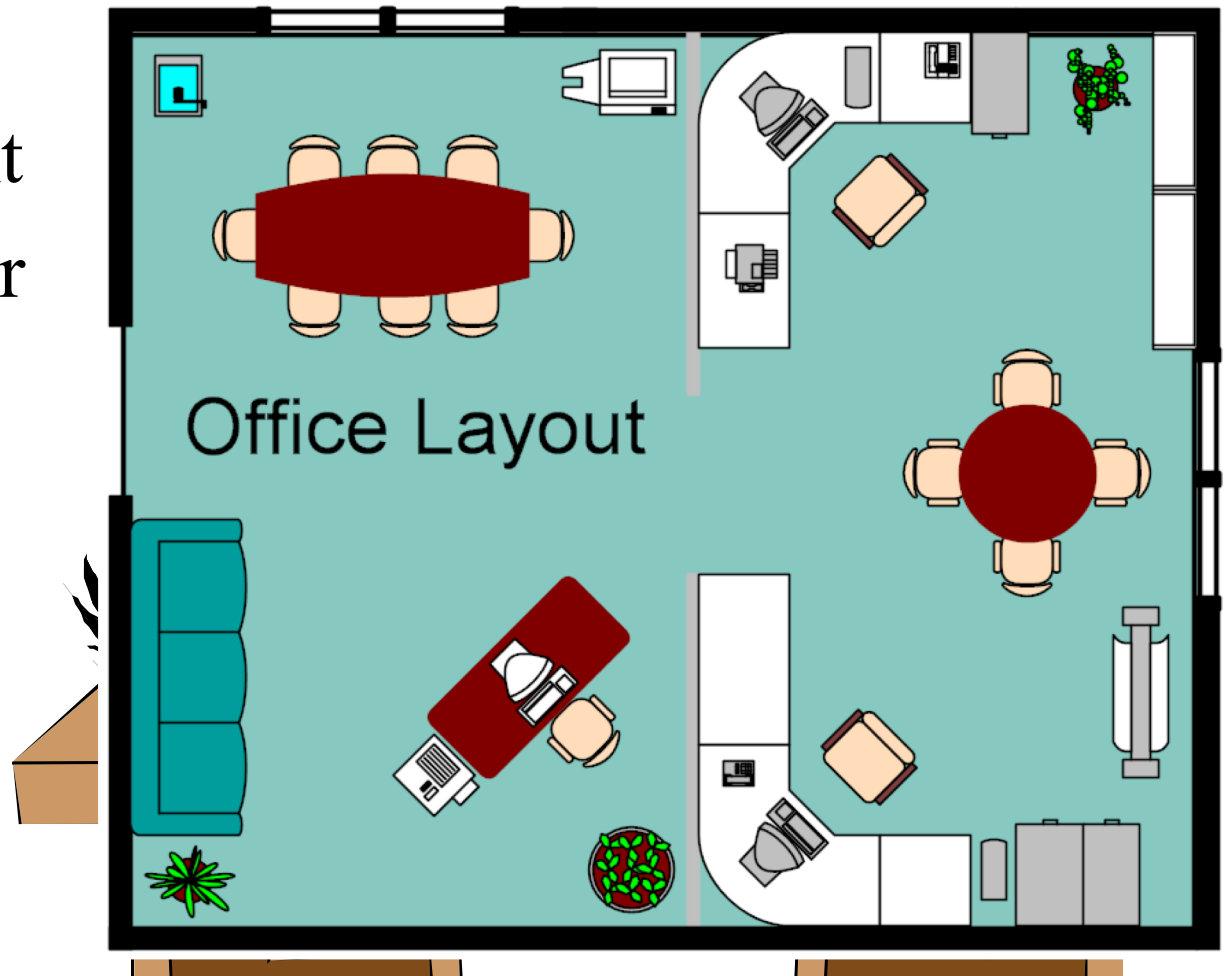


# Cubicle Office Design



# Office Layout

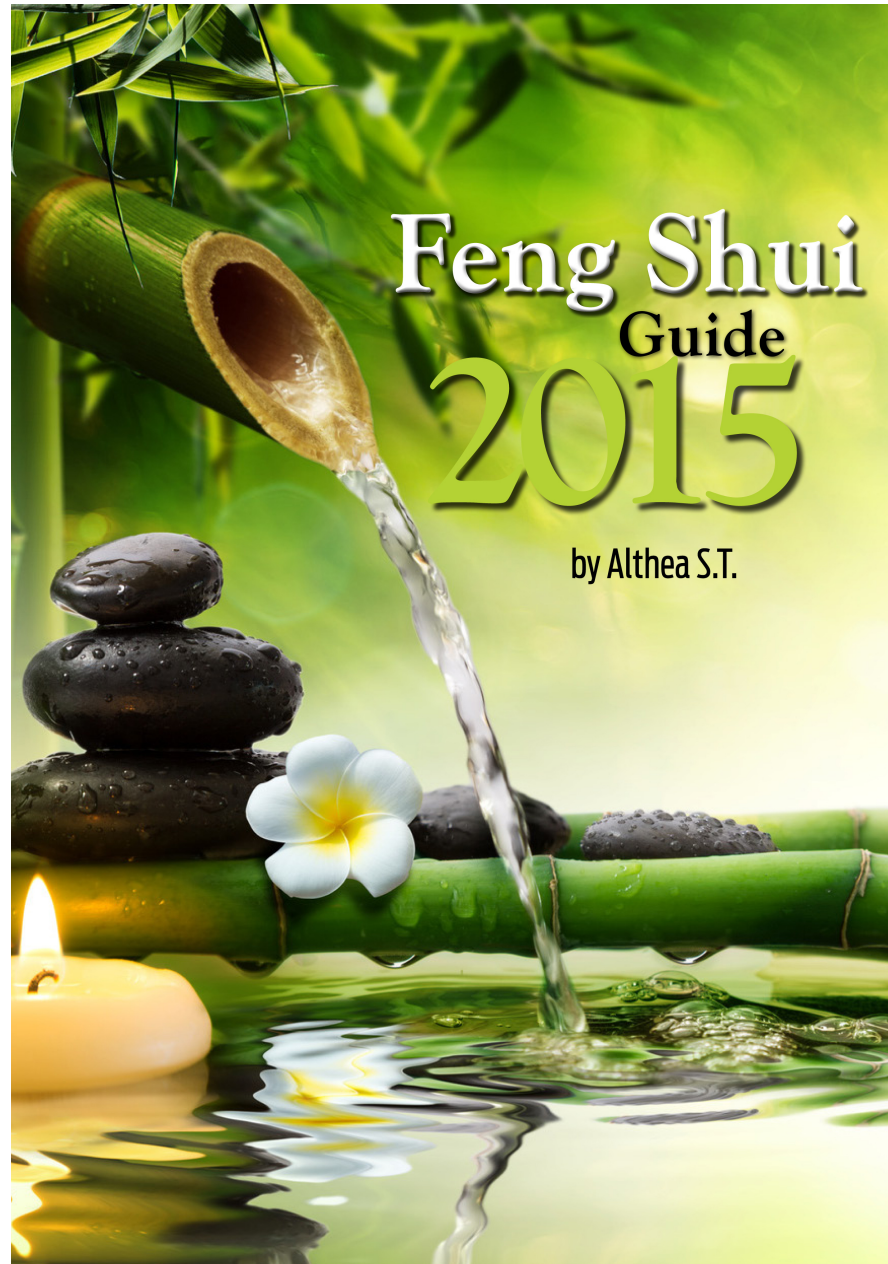
- Furniture type
- Desk placement
- Neatness/clutter
- Artifacts
- Windows



# Characteristics of High Status Offices

- Offices are Large
- Corner Locations
- Hard to reach & Controlled Access (higher floors; secretaries)
- Visual Privacy
- Near Power Centers
- Larger Office & Larger Desk; lots of space behind desk
- Windows
- Paintings/Artwork/Decorations
- More Expensive Furniture & Carpeting
- Formal & Informal Interaction Areas in Office
- Private Office
- Private Bathroom

# What about “Feng Shui?”



# What about “Feng Shui?”

## The Nine Steps to Feng Shui™ Pyramid



# What about “Feng Shui?”





# What will the office of the future look like?



# What will the office of the future look like?



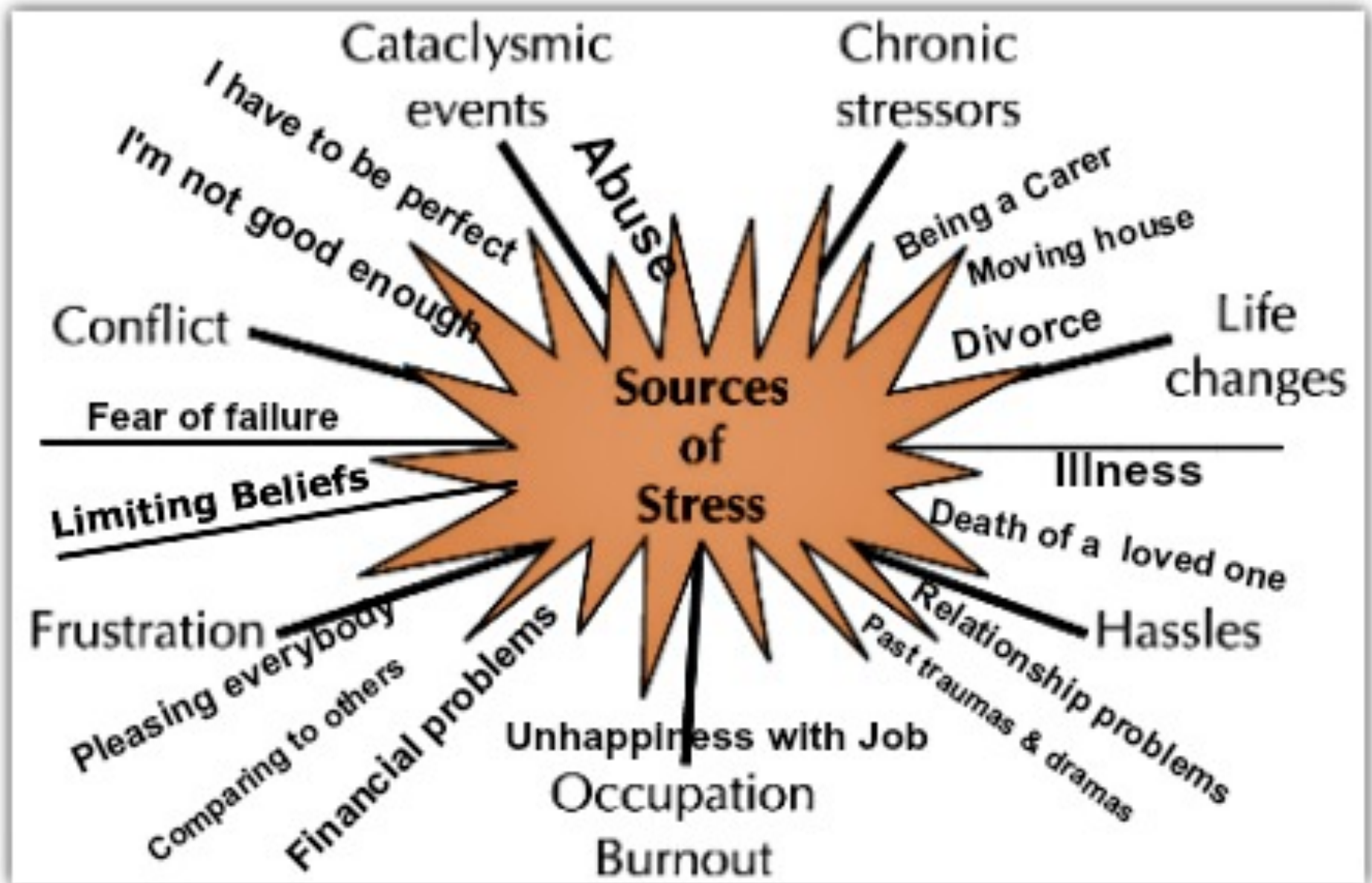
# How can we tell if spaces are being used as intended?

## - The Observation of Physical Traces

- By-Products of Use
  - Erosion
  - Accretion
- Adaptations for Use
- Displays of Self
- Public Messages

# Stress Management at Work





# Types of Stress

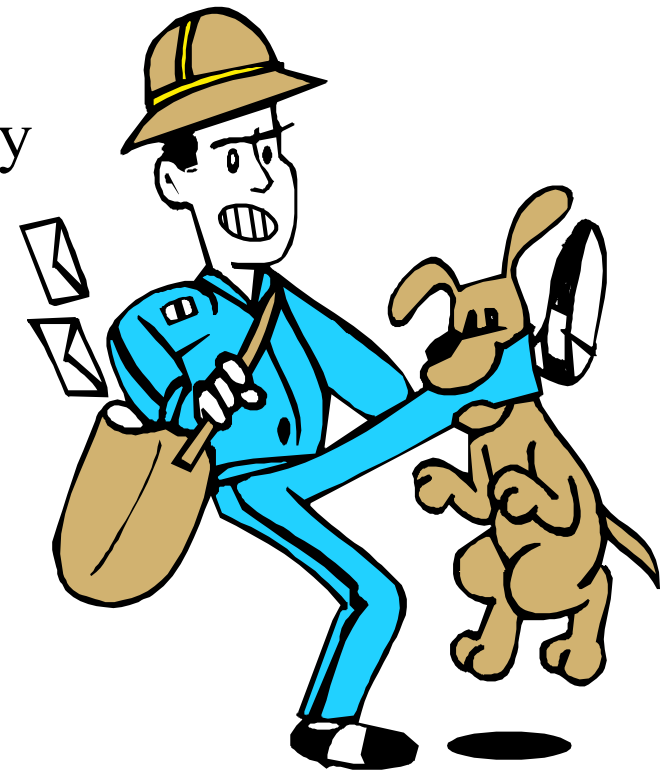
(Stress is the reaction of individuals to inappropriate amounts of stimulation)

- Eustress

- Stress converted to positive energy
- Desirable outcome of stress
- Motivational results
- Optimal level of arousal

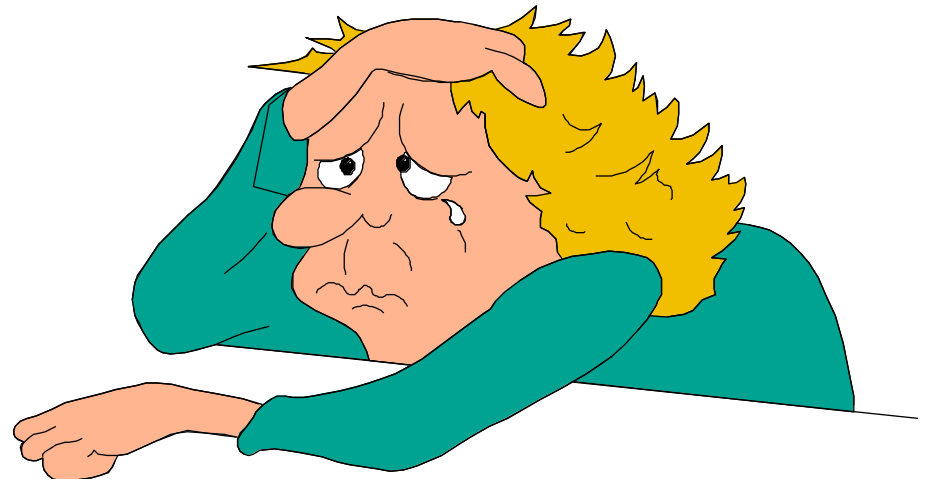
- Distress

- Negative outcome
- Results in emotional and physical illness



# Individual Predisposition to Stress

- Stress Personalities
  - Type A vs. Type B
  - Pessimists vs. Optimists
  - Neuroticism
  - “Stress Personality Styles



# Type A Behavior Patterns

- Intense drive; ambition; Need for achievement
- Time urgent; competitive; need to control
- Aggressive; hostile
- Multitasking
- Talks fast, walks fast, finishes others' sentences
- More likely to be a heavy smoker or Red Bull User
- Rarely sees a doctor; never sees a psychiatrist
- Seldom out sick
- Values respect, not liking; may be difficult to get along with
- Little time for exercising or socializing
- Hates vacations
- Accepts & sticks to difficult goals



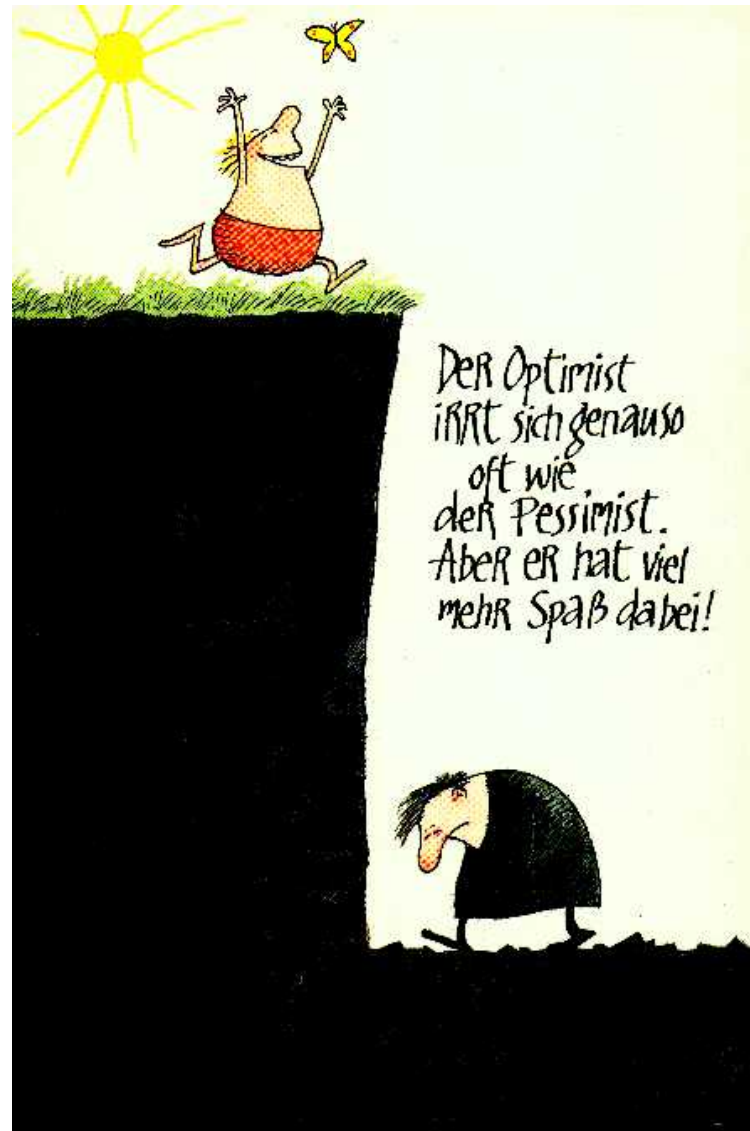


# Type A Consequences

- Type A's have significantly more heart attacks (even when weight & smoking are controlled for)
- The amount of hostility seems to be crucial factor in predicting heart attacks
- Type A's are more likely to survive heart attacks than Type B's



# Optimists vs. Pessimists

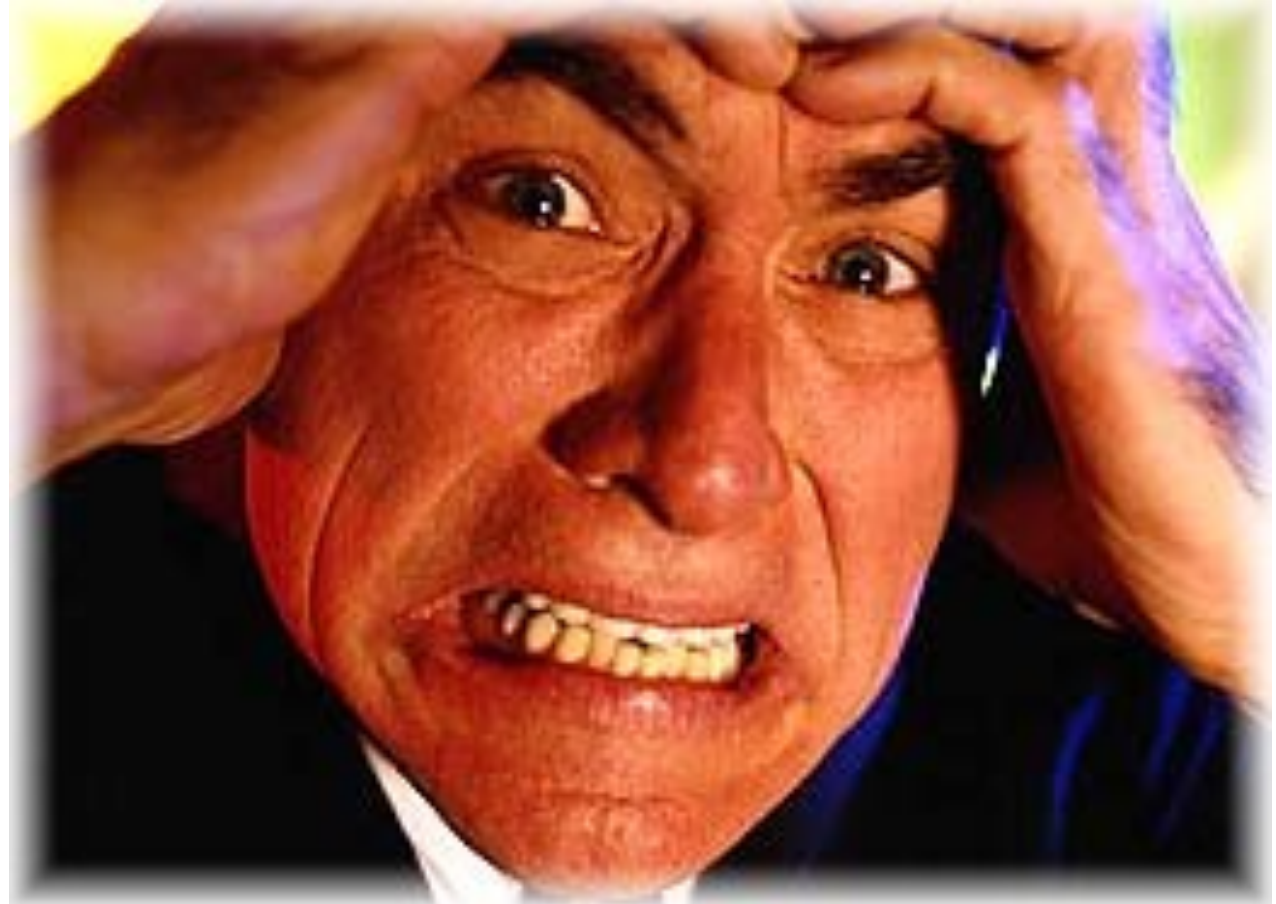


# Seven Types of Stress Personalities

- Pleasers
- Internal Timekeepers
- Strivers
- Inner Con Artists
- Critical Judges
- Worriers
- Sabertooths

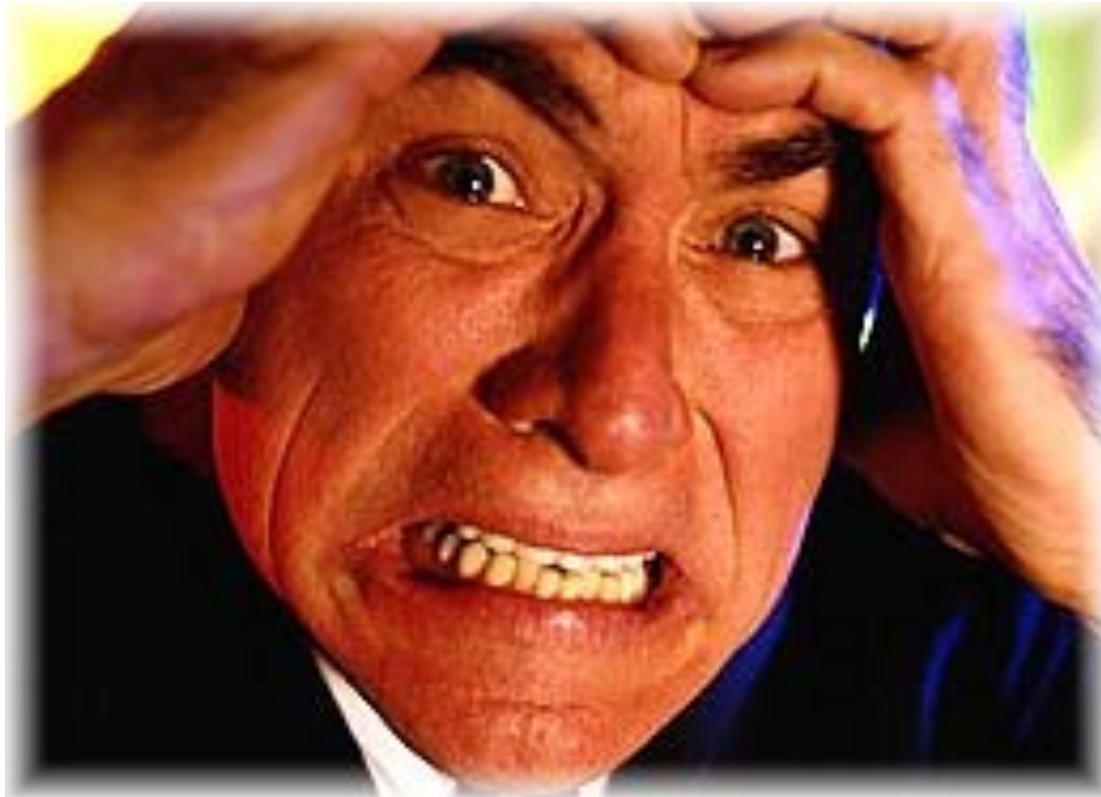
# Bodily Reactions to Stress (Selye)

- General Adaptation Syndrome (GAS)
  - Alarm Stage
  - Resistance
  - Exhaustion



# Bodily Reactions to Stress (Selye)

- Stress has been shown to be a contributor to infectious diseases
- Stress can be “Chronic” or “Acute”



# Sources of Stress at Work

- Stressful Life Events
- Role Conflict
- Role Ambiguity
- Work overload or underload
- Lack of Person-Organization Fit
- Responsibility for people
- Lack of Influence or respect
- Financial worries



# Sources of Stress at Work

- Job Insecurity
- Mobility
- Poor interpersonal relationships
- Performance Evaluation
- Other people who are “Carriers” of stress
- Physical stressors in work environment
  - Temperature, Noise, etc



# Environmental Stress

Occurs when the demands of the environment do not mesh with the capacity of individuals to deal with these demands





# Environmental Stressors

- Lighting
- Noise
- Temperature
- Fatigue
- Sleep Loss (rotating shifts)
- Dangerous Occupations
- Repetitive Work



# Workplace Hazards as a Sources of Stress



# Job Safety



# Job Safety



# Causes of Accidents

- Physical Environment
- Hours of Work
- Lighting & Temperature
- Equipment Design
- Health/Physical Condition
- Fatigue
- Work Experience
- Personality Characteristics?

# Accident Prevention



# Accident Prevention

- Improve reporting/analyzing of accidents
- Well-designed work environments
- Positive organizational climate
  - Make it clear company is committed to job safety
- Train for accident prevention
- Safety publicity campaigns
- Deal with alcohol & drug abuse

# High Stress Jobs

- Firefighter
- Police Officer
- Miner
- Secretary
- Foreman
- Waiter/Waitress
- Air Traffic Controller
- Corporate Executive
- Real Estate Agent
- Taxi Driver
- Inspector (of any sort)
- Office Manager
- Surgeon





# Low Stress Jobs

- Engineers (most kinds)
- Optometrist
- Technical Writer
- Craft Worker
- Stock Handler
- Heavy Equipment Operator
- Personnel Worker
- Web Developer
- Statistician
- College Professor?



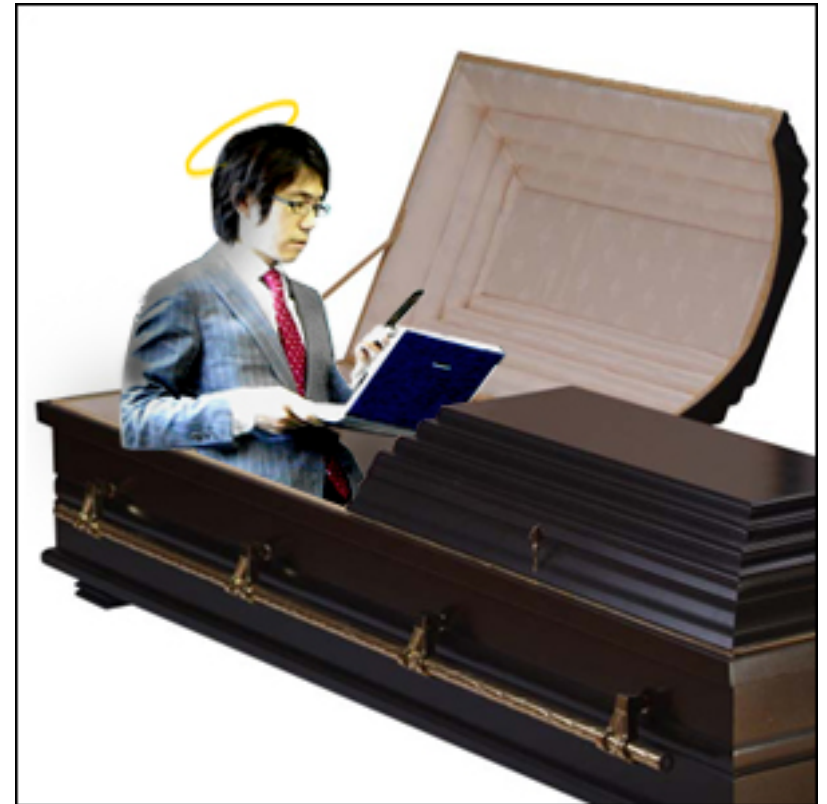
# Consequences of Work-Related Stress



- Health Problems
- Alcohol & Drug Abuse
- Absenteeism & Turnover
- Burnout, Poor Job Performance
- Aggression & Sabotage
- Accidents

# Stress-Related Health Problems

- Karoshi!
- Heart Disease
- High Blood pressure
- High Cholesterol
- Ulcers
- Mental health problems
- Depressed Immune System (Colds, Flu)
- Head & Body Aches
- Arthritis



# Signs of Burnout

- Less energy
- Lower productivity
- Being late to work
- Complaining and negativity
- Decreased concentration
- Forgetfulness
- Apathy
- Dread coming to work
- Feeling overwhelmed
- Tension and frustration
- Feelings of little impact on coworkers or the organization

# Managing & Coping with Stress

- Individual Strategies
  - Exercise
  - Diet
  - Sleep
  - Smoking/drinking
  - Outside interests
  - Time management
  - Relaxation
  - Recognize warning signs
- Organizational Strategies
  - Efficient selection/placement
  - Better skills training
  - Job enrichment/task redesign
  - Counseling programs
  - Build cohesiveness
  - Good communication
  - Smart workspace design
  - Employee participation in decision making

# Workplace Violence



# Workplace Violence

- **Statistics**
  - Homicide reason for 9.7% of workplace fatalities
  - 1% of employees annually victims of workplace violence
- **Types of Workplace Violence**
  - Homicides during commission of a crime (71%)
  - Homicide of a law enforcement officer (14%)
  - Acts of vengeance against employee (15%)
    - Committed by current employee (44%)
    - Former employees (23%)
    - Domestic violence (21%)
    - Other (12%)

# Workplace Violence Perpetrators

- Male (80%)
- 20 - 50 years of age (usually in his 40s)
- Self-esteem tied to job
- Feels there is no other way of resolving his mistreatment other than violence
- Demonstrated a recent pattern of problems at work
- Has recently tried to get others to take his dilemma seriously by threatening, yelling, etc.
- *Has begun showing signs of paranoid thinking*
- Has become isolated and withdrawn
- Has ready access to guns



# Theories of Work Motivation



# MOTIVATION

It's not that I'm lazy, it's that I just don't care.

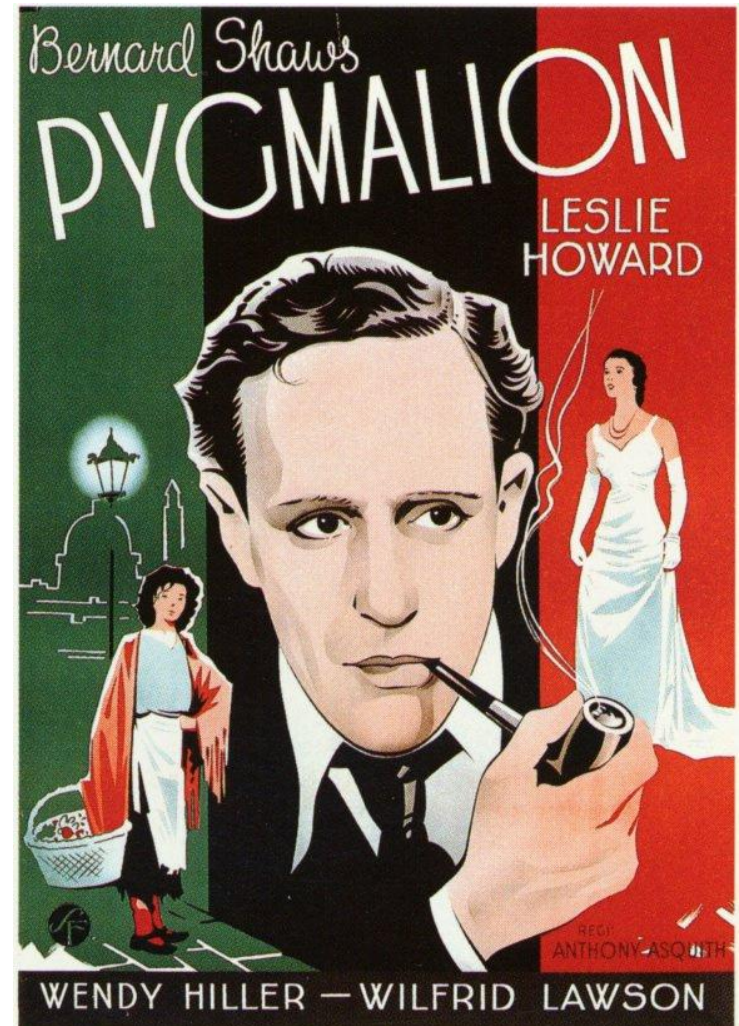
# Personality and Work Motivation

- Conscientiousness
- Self-esteem



# Supervisor Behavior & Motivation

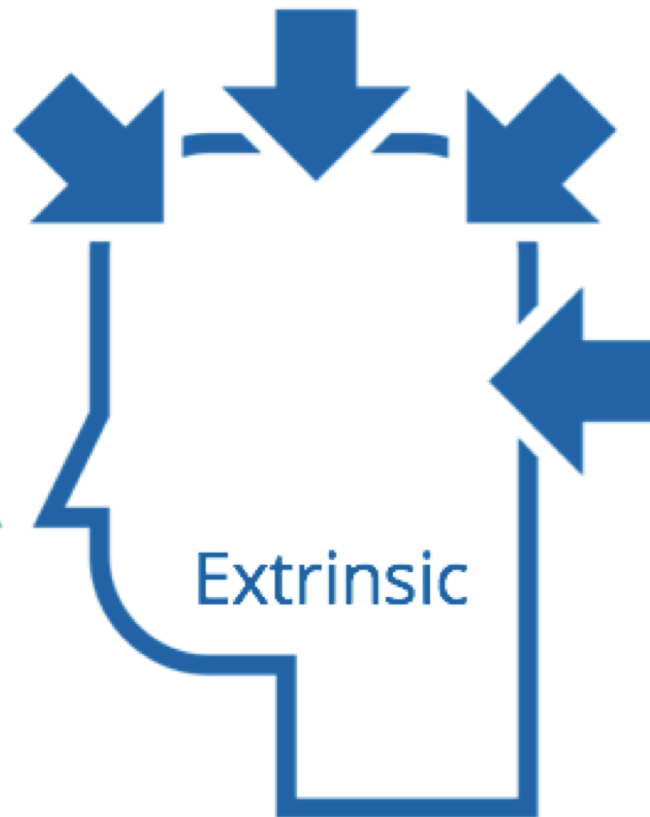
- The Pygmalion Effect
- The Golem Effect



# INTRINSIC VS. EXTRINSIC MOTIVATION: WHY WE DO WHAT WE DO

**Because of the interest and enjoyment in the task itself**

- Enjoyment
- Purpose
- Growth
- Curiosity
- Passion
- Self-expression
- Fun



**Because of the outcome that will result by doing the task**

- Promotions
- Pay raises
- Bonuses
- Benefits
- Prizes
- Winning
- Perks

## Intrinsic Motivation



## Extrinsic Motivation



# Intrinsic vs. Extrinsic Motivation

- Studies involve the use of prizes or rewards vs. none
  - Experiments with college students (puzzles)
  - Psychiatric patients (vocational workshops)
  - High school students (Creativity/Learning Tasks)
  - Elementary & Nursery School kids  
(Magic Markers, Drums, etc)
    - Actively thinking about the prize enhanced the effect

# Individual orientation toward intrinsic vs. extrinsic motivation can be measured by the *Work Preference Inventory* (WPI)

ARTICLE | JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY | MAY 1994

## The Work Preference Inventory: Assessing Intrinsic and Extrinsic Motivational Orientations

by **T. M. Amabile**, K. G. Hill, B. A. Hennessey and E. M. Tighe

### About the Author



**Teresa M. Amabile**  
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## What do you value in a job?

- Status/Prestige (occupation & industry)
- Job requires a variety of skills
- Recognition for achievement/people ask your advice/awards
- Completing a piece of work from beginning to end (task identity)
- High salary
- Doing job that is significant/important
- Opportunities for promotion
- Autonomy/freedom/participation in decisions



## What do you value in a job?

- Satisfaction with supervisor/management
- Feedback about your skills provided by job
- Good coworkers (friendly, competent, supportive, etc)
- Job is part of “who you are”
- Job security
- Fringe Benefits/perks (personal laptop, company car, fitness center)
- Working conditions & hours

## What do you value in a job?

- Size of organization
- Attractive geographical location
- Lots of vacation time
- Social activities (picnics, sports teams, office parties)
- Nice office or attractive building & grounds
- Health Insurance
- Stock options

# Expectancy Theories

- Vroom's Expectancy Model: Depends upon 4 concepts:  $F = E (I \times V)$ 
  - Valence (V) = Value of an outcome. (more preferred outcomes = higher valence)
  - Instrumentality (I) = does an outcome, if noticed, lead to predictable consequences?
  - Expectancy (E) = Belief that effort will result in an outcome
  - Force (F) = Expected value of an act; the amount of motivation that is present
- Porter and Lawler's Expectancy Model: Similar to Vroom's with a few more variables built into the equation.

# Goal Setting Theory (Locke, 1968 & 1972)

- Behavior is motivated by the attainment of goals
- If managers do not set goals, employees will
- This theory is the source of a very influential management technique called “Management by Objectives” (MBO)

## Management by Objectives (MBO)

- Employee performance will be highest when clear, unambiguous standards exist
- Reasonably high standards elicit better performance than easy/low standards
- Standards should be jointly decided; manager must not dictate
- Motivation is maintained by frequent, *regular feedback* about progress toward goals.

# McClelland's Learned Needs Theory

- “Needs” are acquired through our culture
- People are motivated to satisfy needs
- Needs are based on reinforcement history and are independent of each other.
- Examples:
  - Need for Achievement (N' Ach)
  - Need for Affiliation (N' Aff)
  - Need for Power (N' Pow)
  - Need for Social Approval (N' App)

# The "Leadership Motive Pattern"

- This pattern is typical of high-performance managers –
  - High in Need for power, Low in Need for Affiliation



# Need Hierarchy Theories (Maslow, Alderfer's ERG Theory)





# The Motivator-Hygiene Theory

(also known as the “Two-Factor” Theory of Motivation)

- Developed by Frederick Herzberg
- Motivators
  - Factors that produce job satisfaction; related to actual tasks and duties
- Hygiene factors
  - Do not produce job satisfaction, but their absence can produce job dissatisfaction

# Equity Theory

- Individuals are motivated by the need for fairness.
- A lack of equity leads to distress and motivation to restore equity.
- Both “exploiters” & “victims” experience distress, but victims experience more.

# Ways of Restoring Equity

- EXPLOITERS:
  - Compensate the victim
  - Self-Deprivation
  - Expect Retaliation
- VICTIMS:
  - Demand Compensation
  - Retaliate

# Ways of Restoring Psychological Equity

- **EXPLOITER:**
  - Blame the victim
  - Minimize the victim's suffering
  - Deny responsibility for the inequity
  - Apologize; Redistribute self-esteem
- **VICTIM:**
  - Justify the inequity

# Experimental evidence that employees care about equity



# Why would employers care about following equity norms?



"IF YOU DON'T STOP BEING SUCH A FAIR AND RESPONSIBLE EMPLOYER, THEN US TRADE UNIONISTS WON'T BE ABLE TO JUSTIFY OUR EXISTENCE ANYMORE!"

# Other Miscellaneous Views on Motivation

- **Arousal Theories** (McClelland, Fiske & Maddi, Zuckerman)
  - Motivation to maintain optimal level of arousal
  - Motivation to maximize small deviations from baseline
- **Behaviorist Theories** (Skinner)
  - No internal motivation at all; Behavior is controlled by reinforcement schedules
  - OB Mod
  - Premack Principle
- **Two Factor Theory** (Motivator-Hygiene Theory: Herzberg)
  - Motivators: Factors that produce job satisfaction
  - Hygiene Factors: Factors whose absence produces job dissatisfaction

# Money as a Motivator

- How does money fit in with the following motivation theories?
  - Need Theories (Maslow, McClelland, etc)
  - Intrinsic vs. Extrinsic Motivation
  - Equity Theory
  - Behaviorism/Reinforcement Theory



# How important is pay for job satisfaction?

- Usually moderately important, but never the *most* important factor.
- It is easier to articulate and fix dissatisfaction with pay than for less tangible job factors.
- It is the easiest way to keep score – a symbol of success and esteem.



# Methods of Pay

- Pay according to production
  - Piece Rate
  - Pay for Quality (Can also include *Merit Pay*)
  - This plan encourages competition and high productivity, but can be stressful. Workers often oppose it.
- Pay according to time spent
  - Ignores differences in ability
  - No incentive for production
  - Encourages equality/security
  - Generally favored by workers
- Straight salary
- Pay based upon seniority
- Pay on the basis of need
  - Has been used to justify lower wages for women & teens



# Designing Jobs to Increase Motivation

- Job Enrichment
- Job Rotation
- Design for Task Identity
  - Batching
  - Job Enlargement
- Design for Feedback and Success
  - Have clear goals; Explain why they make sense
  - Use positive rather than negative goals
  - Avoid Goallessness!
- Deal with the Issue of Monotony & Boredom
  - Rest, Rotation, Social Rearrangement



## BE A HAPPY WORKER!

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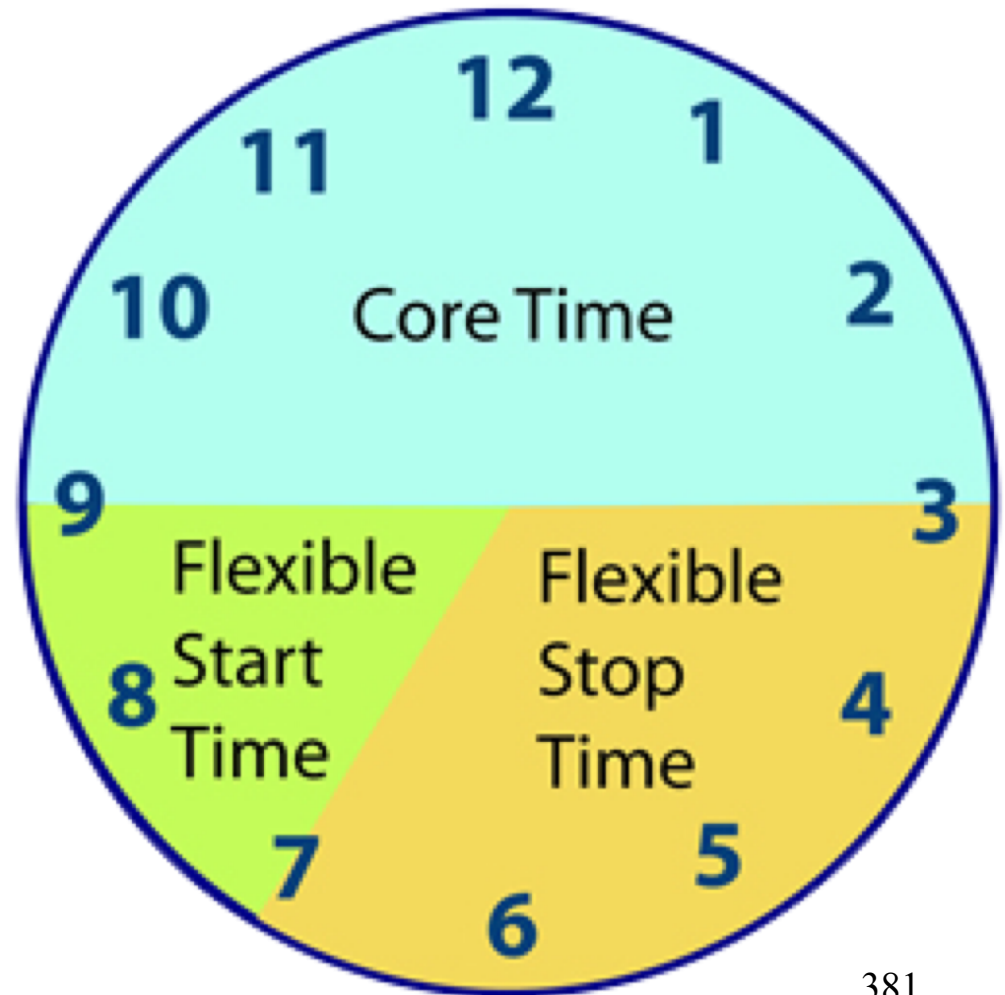
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# Motivation & Flexible Work Arrangements

- Flexible Work Arrangements
  - Increase motivation
  - Increase productivity
  - Increase job satisfaction
  - Lower commuting costs
  - Create better work-life balance

# Flextime

- Key Concepts:
  - Bandwidth
  - Core Hours
  - Flexible Hours



# Other Flexible Time Schedules

- Gliding Time
- Flexitour
- Compressed Work Week (CWW)

# Reduced Work Hour Schedules

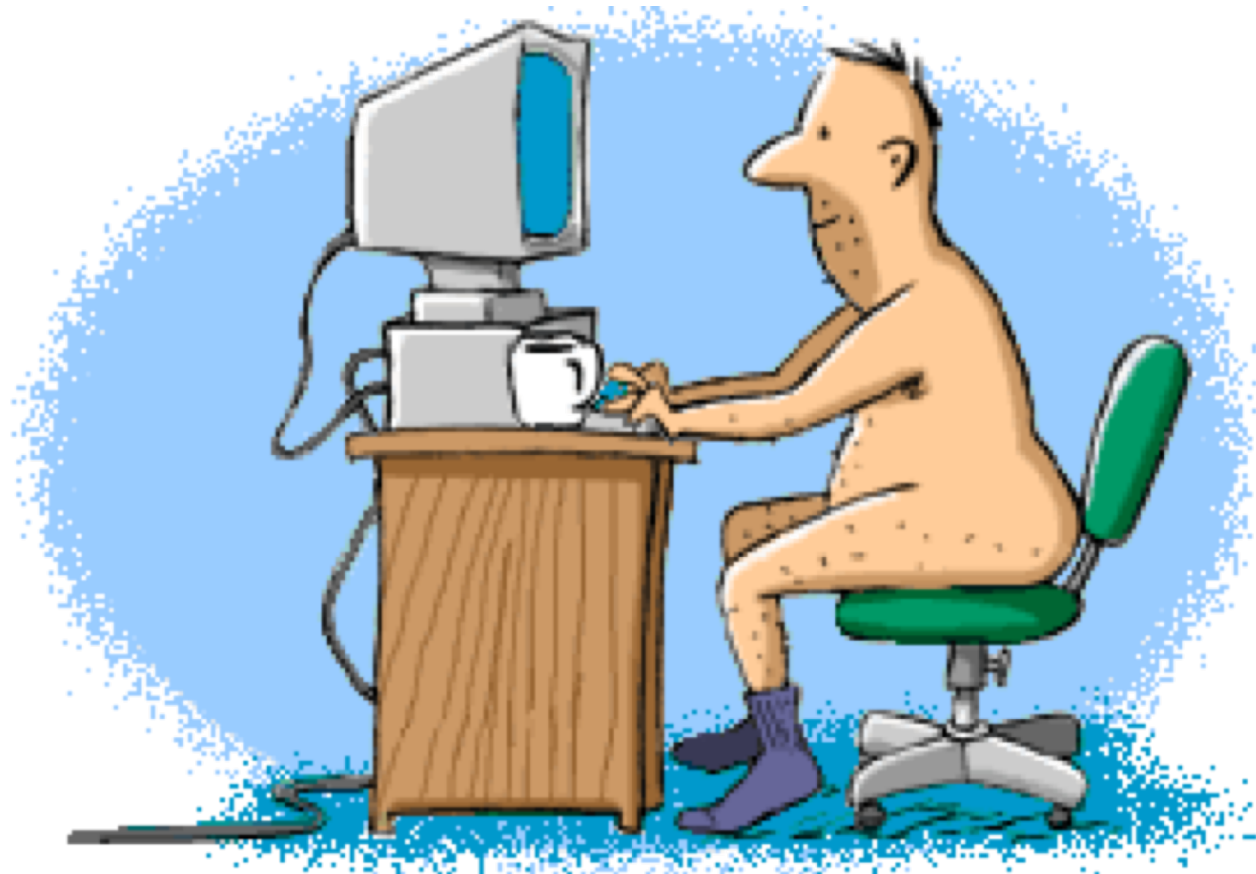
- Peak Time Pay
- Job Sharing

# Telecommuting





# Telecommuting



Casual Friday for the  
Telecommuter