



First...
**Some Class
Business**

The Job Analysis Game of Life winner is...



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Choosing Interview Questions

An Example



Staffing Decisions (Employee Selection)

PSYC 301

Instructor: Melanie Standish



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01

CONCEPTUAL ISSUES

IN STAFFING



WHAT IS A STAFFING DECISION?

Decision associated with recruiting, selecting, promoting, & separating employees

Stakeholders

- The organization
- Line managers
- Co-workers
- Applicants



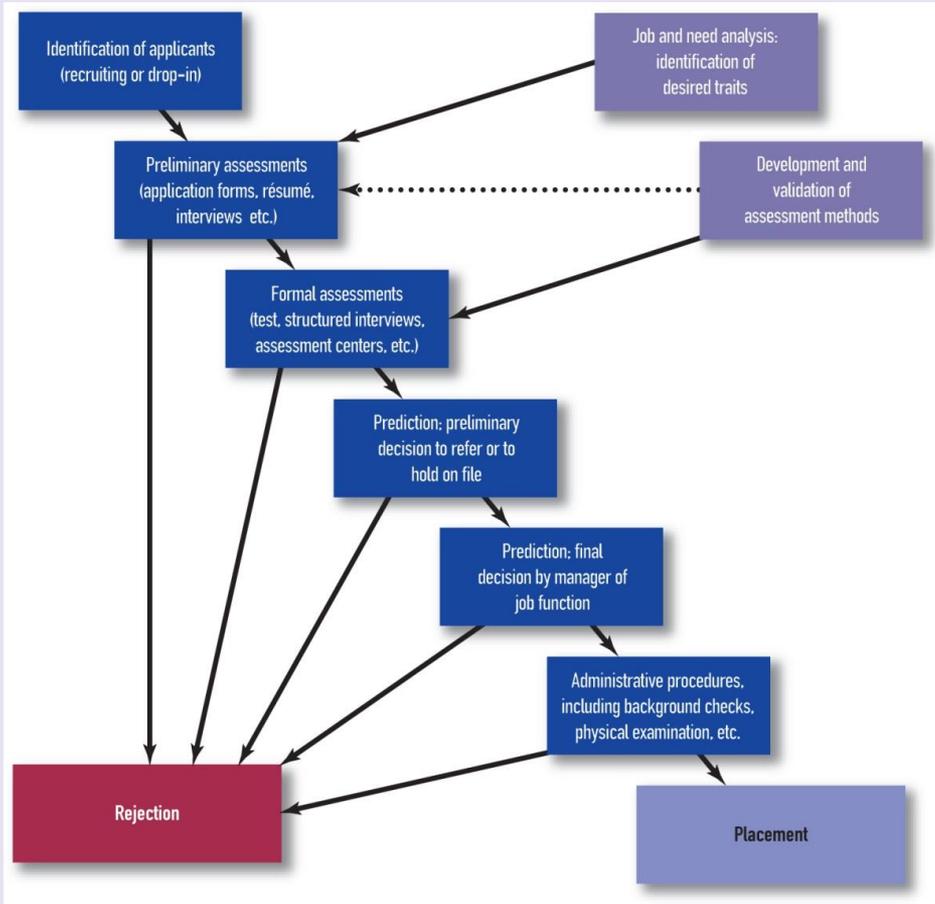
SELECTION VS. PLACEMENT

- **Selection**

- Measuring individual differences and hiring based upon them
- Example: Any modern organization

- **Placement**

- Measuring individual differences that are already hired and placing them in the job best for them
- Example: US Army

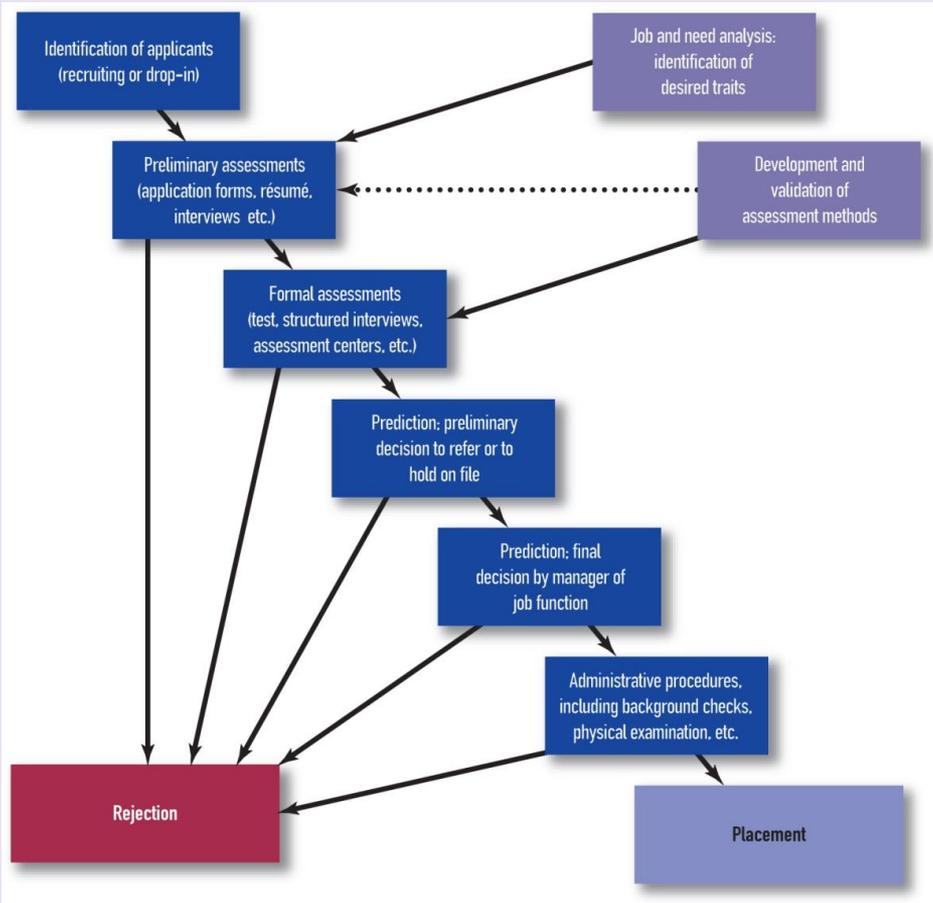


THE STAFFING PROCESS

IMPACT OF STAFFING ON FIRM PERFORMANCE

- High-performance work practices
 - Include use of formal job analyses, selection from within for key positions, amount of training received by employees, merit-based promotions, & use of formal assessment devices for selection
- Staffing practices have positive associations with firm performance





Has anyone ever gone through a hiring process at a company?

- **What was it like?**
- **What were the stages?**

GENERAL STAFFING CONCERNS

- Choice of assessment methods
- Combining assessment methods
- Determine incremental validity of selection instruments
- Determine a selection ratio
- Determine utility

TYPICAL SELECTION METHODS – REVIEW

- Questionnaires/Measures/Tests
- Assessment Centers
 - In-baskets, leaderless group discussions, oral presentation, etc.
 - Measuring traits across exercises
- Interviews
 - Structured vs. unstructured interviews
- Biodata (the method)
- Realistic Job Previews
- Work Sample Tests / situational judgment tests (SJT)
- Internet-based Testing

Stakeholder Goals in the Staffing Process

CUSTOMER	NEEDS, DESIRES, AND GOALS FOR SELECTION
Line managers	Accurate and informative indicators of applicant potential Quick and easy-to-use selection process Flexibility and accommodation of selection procedures Perceived validity of selection process
Coworkers	Accurate and informative indicators of applicant potential Input into the selection decision making process Perceived validity of selection process
Applicants	Appropriate hiring decision Unbiased, job-related selection process that gives them a chance to demonstrate their potential Honest and sensitive interpersonal treatment

STAFFING FROM INTERNATIONAL PERSPECTIVE

- Job descriptions used universally
- Educational qualifications & application forms widely used for initial screening
- Interviews & references are common post-screening techniques
- Cognitive ability tests used less frequently; personality tests used more frequently



02

EVALUATION OF STAFFING AND OUTCOMES



**Let's Evaluate a
Staffing Method**



Google's Selection Process

Some examples of their famous
interview questions...

- Design an evacuation plan for San Francisco.
- How many vacuum's are made per year in USA?
- How many piano tuners are there in the entire world?
- How many haircuts do you think happen in America every year?
- How much should you charge to wash all the windows in Seattle?

HOW CAN WE
EVALUATE A
SELECTION METHOD
SUCH AS THIS ONE
FROM **Google**?



THREE WAYS TO EVALUATE

Criterion-related validity: How adequately does a test score match some criterion score?



VALIDITY

Accurateness of inferences made based on test or performance data

Assessment of the economic return on HR investments such as staffing



UTILITY



FAIRNESS

Socially constructed norms that indicate equal treatment and opportunity



VALIDITY

INCREMENTAL VALIDITY

- Benefit to criterion-related validity to use one set of predictors over another set
- Predictive overlap in predictors is not cost effective, if avoidable

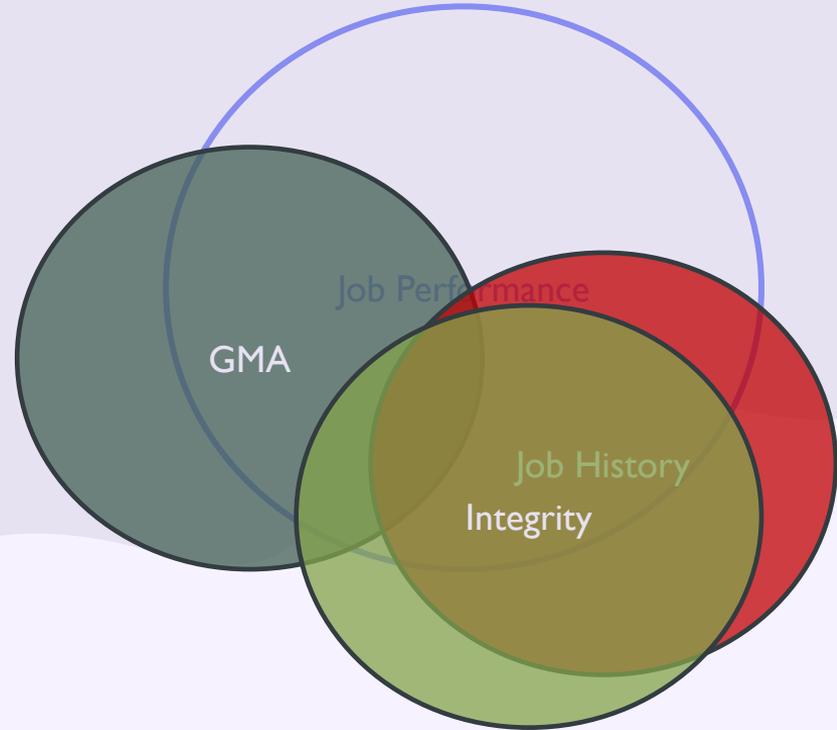




VALIDITY

INCREMENTAL VALIDITY

- Benefit to criterion-related validity to use one set of predictors over another set
- Predictive overlap in predictors is not cost effective, if avoidable





TESTING FOR CRITERION-RELATED VALIDITY

- Simple zero-order correlation matrix
 - Does not give overall criterion-related validity estimate across all predictors
- **Multiple regression**
 - **R²/coefficient of multiple determination:** proportion of variability in the criterion explained by the predictors
- Testing for **incremental validity**
 - **Hierarchical multiple regression**
 1. Run multiple regression testing model fit of your initial set of predictors (R²)
 2. Run multiple regression testing model fit of your initial set of predictors plus your new predictors (R²)
 3. Check if there is a difference in R²s (ΔR^2)



HIERARCHICAL MULTIPLE REGRESSION AND INCREMENTAL VALIDITY EXAMPLE

- Correlations
 - C v. JP: $r = 0.22$ ($r^2 = 0.05$)
 - g v. JP: $r = 0.39$ ($r^2 = 0.15$)
 - Integrity v. JP: $r = 0.35$ ($r^2 = 0.12$)

- Model 1: $I + g$
 - $R^2 = 0.30$

- Model 2: $I + g + C$
 - $R^2 = 0.31$

- $\Delta R^2 = 0.01$

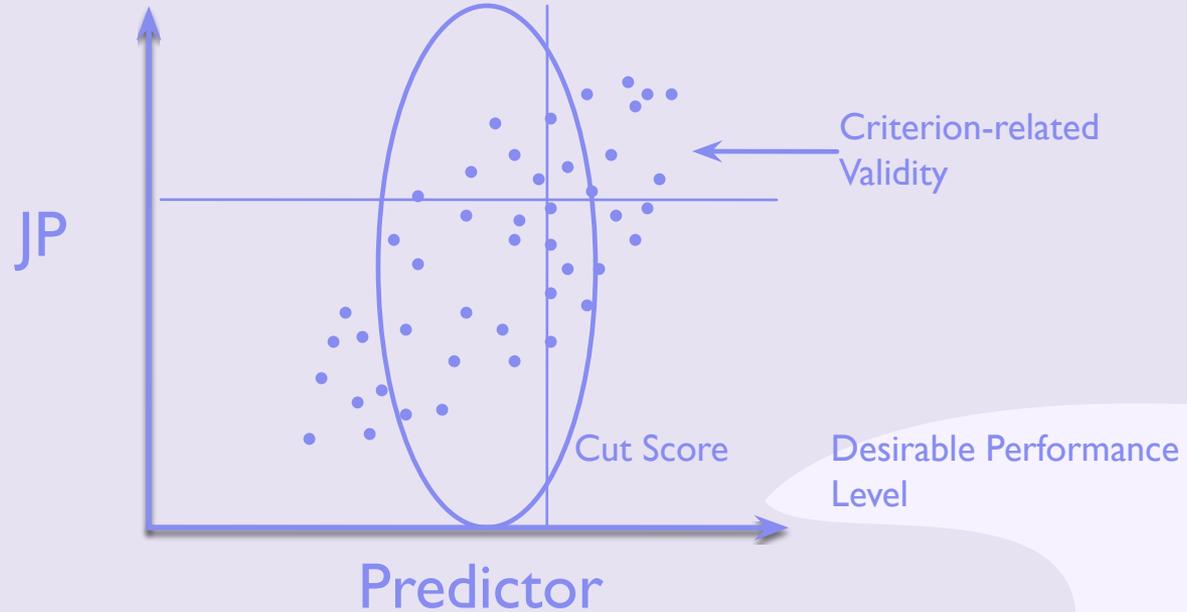


SELECTION RATIO

- Index of ultimate goals of hiring
 - Ratio of number of positions/hires to number of applicants
 - Example: 10 positions for 100 applicants:
 $u = 0.1$
- Importance
 - The more difficult it is for any individual to be hired, the bigger the difference between average hired and not-hired job performance will be



SELECTION RATIO AND CUT SCORES





VALIDITY

WHICH IS WORSE???

- **A** = Hiring someone who ends up being a bad employee
- **B** = Not hiring someone who would have been a good employee

- Would your answer change based on the job?
 - **A = Yes, B = No**



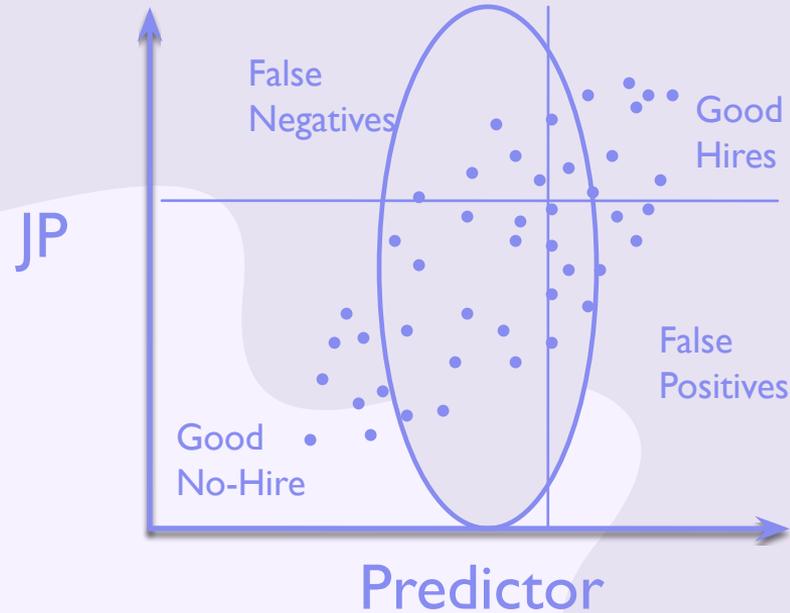
VALIDITY

SELECTION DECISIONS

- **False positive**
 - Applicant accepted but performed poorly
- **False negative**
 - Applicant rejected but would have performed well
- **True positive**
 - Applicant accepted & performed well
- **True negative**
 - Applicant rejected & would have performed poorly

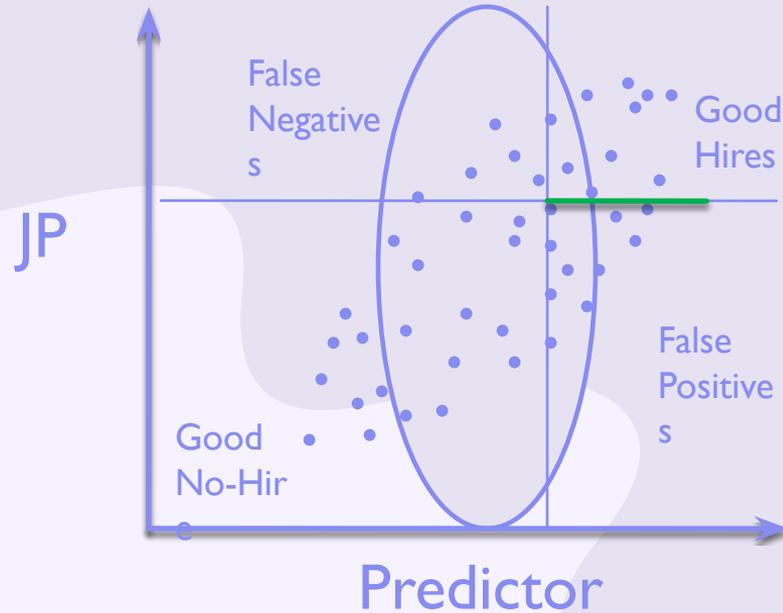


SELECTION RATIO AND CUT SCORES



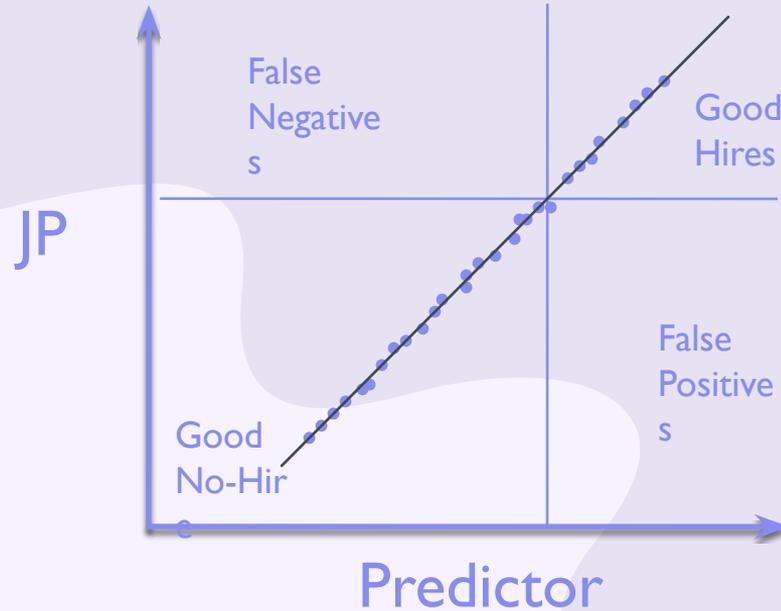


SELECTION RATIO AND CUT SCORES





SELECTION RATIO AND CUT SCORES





UTILITY OF A SELECTION SYSTEM

$$\text{\$ gain in utility} = \frac{N_s r_{yx} (\$D_y)\lambda}{s.r.} - \frac{N_s C}{s.r.}$$

- Utility in I/O = ROI in Business
 - Increase Utility from Selection Systems by:
 - Testing more applicants / hiring fewer people
 - Reducing cost of assessment per person
 - Using assessment procedures with high validity
 - Also affected by:
 - SD of JP
- N_s = # selected
 - r_{yx} = validity coefficient
 - $s.r.$ = selection ratio
 - λ = height of standard normal curve at selection cutpoint
 - C = Cost/person of testing
 - $\$D_y$ = SD of performance in dollars



FAIRNESS

FEELINGS OF UNFAIRNESS REGARDING STAFFING STRATEGIES CAN LEAD TO:

- Initiation of lawsuits
- Filing of formal grievances with company representatives
- Counterproductive work behavior



Let's Reconsider Google's Selection Process

Discussion:

If you had to make a hypothesis, how effective do you think Google's brainteaser questions are in terms of

- Validity
- Utility
- Fairness

Why?



What they actually found...

“We found that brainteasers are a *complete waste of time*,” Laszlo Bock, senior vice president of people operations at Google, told the New York Times. “They don’t predict anything. They serve primarily to make the interviewer feel smart.”

03

PRACTICAL ISSUES IN STAFFING



COMBINING INFORMATION

- **Clinical/holistic** decision making
 - Uses judgment to combine information
 - “Intuitive” method – decision maker examines multiple pieces of information, weights them in his/her head, and makes a decision
- **Statistical/mechanical** decision making (“actuarial”)
 - Uses mathematical formula to combine information
- Which approach would you expect to be associated with more accurate decisions/predictions?
 - **A = holistic, B = mechanical**

COMBINING INFORMATION

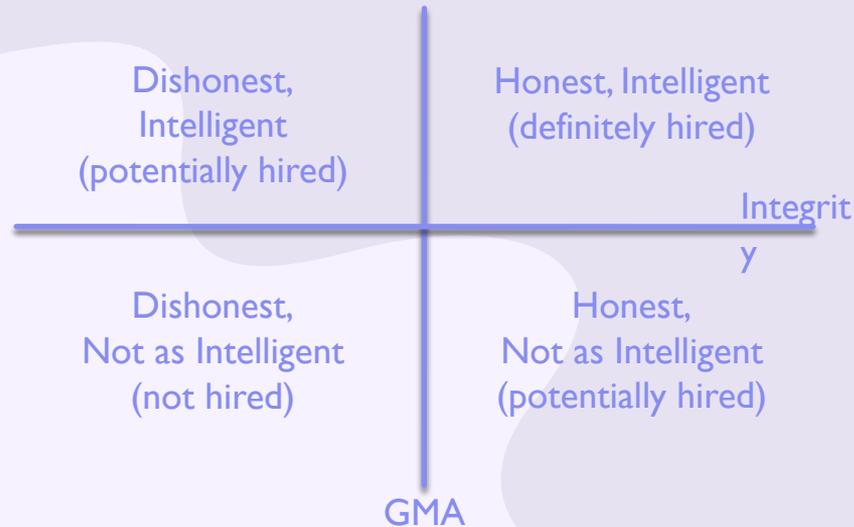
- Compensatory systems
 - Additive systems
 - Optimal weighting systems (multiple regression)
 - $y' = 5.3 + 1.6*(GMA) + 2.5*(Conscientiousness)$

COMBINING INFORMATION

- Hurdle systems
 - Ordering of hurdles matters
 - Usually only appropriate when
 - a specific number of positions is available, or
 - an empirically validated selection system would cost too much to administer to every applicant, or
 - to prevent cheating

PROBLEMS WITH COMPENSATORY SYSTEMS

- Can sometimes create undesirable combinations of traits



PROBLEMS WITH HURDLE SYSTEMS

Candidate	Conscientiousness	GMA
G. House	1.5	2.3
L. Cuddy	5.4	1.2
J. Wilson	3.1	1.3
R. Chase	1.2	1.6

- Hurdle System 1 (Consc. 50% > GMA 50%)
 - Cuddy and Wilson survive first stage
 - Wilson is hired
- Hurdle System 2 (GMA 50% > Consc. 50%)
 - House and Chase survive first stage
 - House is hired

COMBINING INFORMATION

- Score Banding
 - Individuals with similar test scores are grouped together & selection from category is made based on other information
 - Scores within a standard error of measurement (SE)
 - Creation of bands complex
 - Controversial
- Subgroup Norming
 - Develops separate lists/rankings for individuals within different demographic groups
 - Illegal under Civil Rights Act of 1991

ESTABLISHING CUT SCORES

- **Criterion-referenced cut score:** established by considering desired level of performance and finding the test score that correspond to the desired level of performance
- **Norm-referenced cut score:** based on some index of the test takers' scores (e.g., percentage)
- Use criterion-referenced cut scores
 - Specified by Uniform Guidelines
 - Lanning v. SEPTA – norm-referenced cut scores fare poorly

DESELECTION

- Termination for cause – fired for wrongdoing or poor performance
 - Usually have warning
 - Perceptions of fairness less important
- Layoff – fired due to downsizing or reductions in force
 - Often comes without warning
 - Perceptions of fairness important
 - Should use statistical combinations

NUMBER OF DECISIONS

- Large Staffing Projects
 - E.g., TSA and Large Police Departments
 - Need efficient screen out tests
- Small Staffing Projects
 - Local coffee shop or family owned restaurant
 - Can use wider range of selection methods
- Need valid selection system regardless



04

LEGAL ISSUES

IN STAFFING DECISIONS

LEGAL ISSUES IN STAFFING DECISIONS

- Charges of employment discrimination
 - Involve violations of **Title VII of 1964 Civil Rights Act**, the Age Discrimination in Employment Act of 1967 (ADEA), or the **Americans with Disabilities Act of 1990 (ADA)**
 - I-O psychologists often serve as expert witnesses in these lawsuits
 - Consequences can be substantial
 - Most often brought by individual claiming unfair termination



EMPLOYMENT DISCRIMINATION

- **Title VII of the Civil Rights Act of 1964**
 - Established unlawful employment practices on basis of 5 protected groups:
 - Race
 - Gender
 - Religion
 - Color
 - National origin
 - May not fail to or refuse to hire, or discharge based on the basis of any of the 5 groups
 - May not separate or classify on the basis of any of the 5 groups
 - Employment advertising and training preferences may not indicate preferences for any group

EMPLOYMENT DISCRIMINATION

- **ADEA**

- Extended the same legal protection granted to the 5 groups to people aged 40 and over

- **ADA**

- Reasonable accommodation
- Employers are required to modify or accommodate their business practices in a reasonable fashion to meet the needs of disabled persons
- e.g., providing elevators or ramps, providing readers, etc.

COSTLY RISK TO IGNORE

- Scharf & Jones (2000)
 - Texaco, 1996 \$176,100,000 for RACE
 - Shoney's, 1993 \$105,000,000 for RACE
 - Home Depot, 1997 \$65,000,000 for SEX
 - Hooters, 1997 \$3,750,000 for SEX
 - Lockheed-Martin, 1996 \$14,000,000 for AGE
 - Coca-Cola, 1995 \$7,100,000 for DISABIL

THEORIES OF DISCRIMINATION

- **Adverse (or Disparate) Treatment**

- Intentionally applying a standard or practice (e.g. hiring, training) to one group but not another

- **Adverse Impact (AI)**

- A standard or procedure (e.g., hiring) is applied equally to all, but disproportionately (and unintentionally) excludes a higher proportion of one group than another.

STANDARDS

- Equal Employment Opportunity Commission (EEOC)
 - Established the Uniform Guidelines on Employee Selection Procedures (1978)
 - Gave a practical and easy to compute method to determine AI – the 4/5ths Rule

4/5THS RULE

- Passing rate of protected class must be no less than 4/5ths of the passing rate for the non-protected group
- Compute an **odds ratio**:
 - Selection Ratio of Discriminated Group divided by Selection Ratio of Non-Discriminated Group
- Compare odds ratio with 4/5 (0.8)
- Non-Discriminated Group defined by Discriminated Group (i.e. compare women with men, African Americans with European Americans, etc.), all within a protected class

4/5THS RULE EXAMPLE

- Applicant pool Hired
 - 40 European Amer. 18 European Amer.
 - 30 African Amer. 12 African Amer.
- Steps
 - Compute selection ratios
 - $18/40 = 0.45$
 - $12/30 = 0.4$
 - Compute odds ratio
 - $0.4 / 0.45 = 0.89$
 - Compare to 0.8

IF ADVERSE IMPACT IS SUSPECTED...

1. Plaintiff's lawyer petitions judge for records that would indicate adverse impact from the defendant organization
2. Plaintiff (or plaintiff's legal team) demonstrates AI (using 4/5ths rule, for example) & that plaintiff is member of protected class
3. Company must then demonstrate:
 - a) The test is job related (through demonstration of content validity, criterion-related validity, or **BFOQ**).
 - b) There is no alternate valid, job-related test with less AI that could have been used.

LEGAL VS. ILLEGAL DISCRIMINATION

- Job of “Bag Lifter” requires lifting 100 lb. bags and moving them 10 feet.
- Only assessment for hiring is a work sample.
- Selection procedure shows adverse impact against women.
- Is it legal?

COMMON MISTAKES REGARDING AI

- Company hires 5 women and 80 men.
 - Is there adverse impact?
- Equating adverse impact with bias
- Misinterpreting mean differences
 - “Women, on average, score lower than men” does not mean “all women score lower than all men” nor “this woman won’t score well”

SELECTION PRACTICE THAT DISCRIMINATES AGAINST WOMEN.

True

False

TO USE A MEDICAL TEST (SUCH AS MMPI FOR MENTAL ILLNESS).

True

False

**IT IS ILLEGAL TO FIRE SOMEONE
AT AGE 65.**

True

False

**COMPANY IS IN A LATINO
NEIGHBORHOOD.**

True

False

DISABILITY IN THE HIRING PROCESS.

True

False

THANKS!



Do you have any questions?
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OUR COMPANY

The planet's name has nothing to do with the liquid metal, since it was named after the Roman messenger god, Mercury



UNDERSTANDING THE PROBLEM



MARS

Mars is actually a cold place. It's full of iron oxide dust, which gives the planet its reddish cast



VENUS

It has a beautiful name and is the second planet from the Sun. It's even hotter than Mercury



SATURN

This is the ringed one. Saturn it's a gas giant, composed mostly of hydrogen and helium

A PICTURE ALWAYS REINFORCES THE CONCEPT

Images reveal large amounts of data, so remember: use an image instead of long texts



OUR SOLUTIONS



MERCURY

Mercury is the closest planet to the Sun



VENUS

Venus has a beautiful name, but terribly hot



JUPITER

It's the biggest planet in the Solar System



SATURN

Saturn is the ringed one and a gas giant

MAIN COMPETITORS



	MARS	MERCURY	JUPITER	VENUS
	✓	✓	✗	✓
	✗	✗	✓	✓
	✗	✓	✓	✗
	✓	✓	✗	✓
	✗	✗	✗	✗



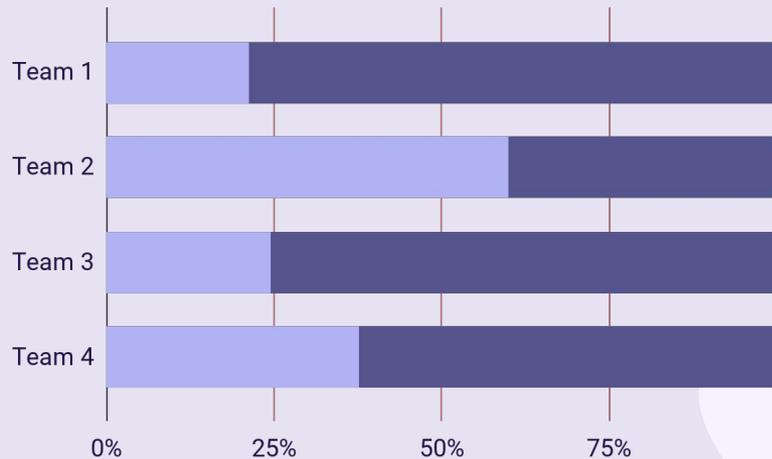
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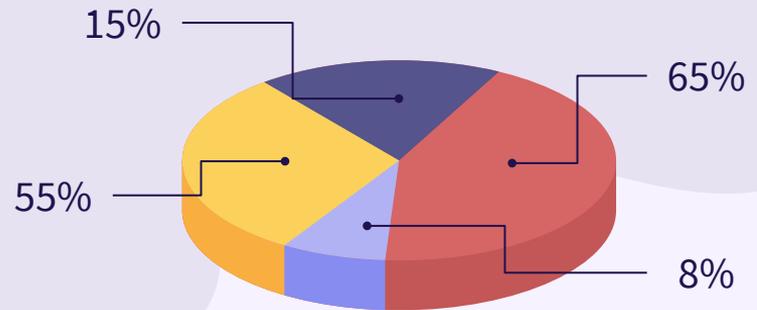
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EVOLUTION



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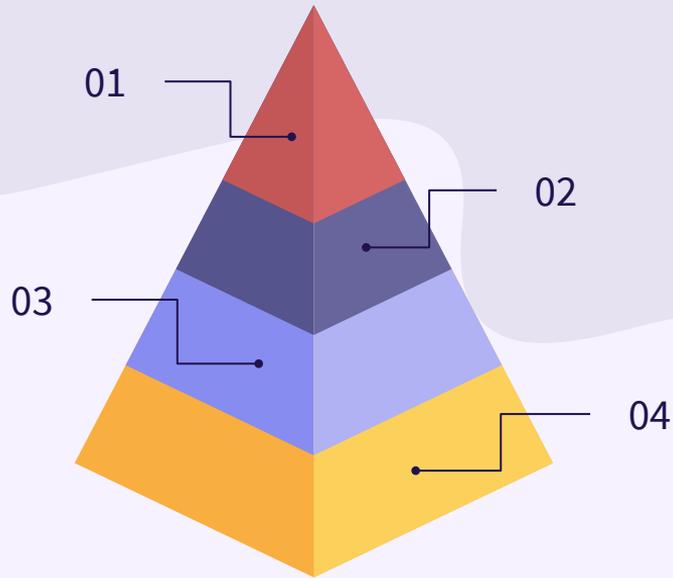
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- 1 MERCURY
- 2 JUPITER
- 3 SATURN
- 4 NEPTUNE

ANALYSIS

TOP RATED VALUES



1

Mercury is the closest planet to the Sun

2

It's the biggest planet in the Solar System

3

Venus is the second planet from the Sun

4

Saturn is the ringed one and a gas giant

THIS IS A MAP

MERCURY

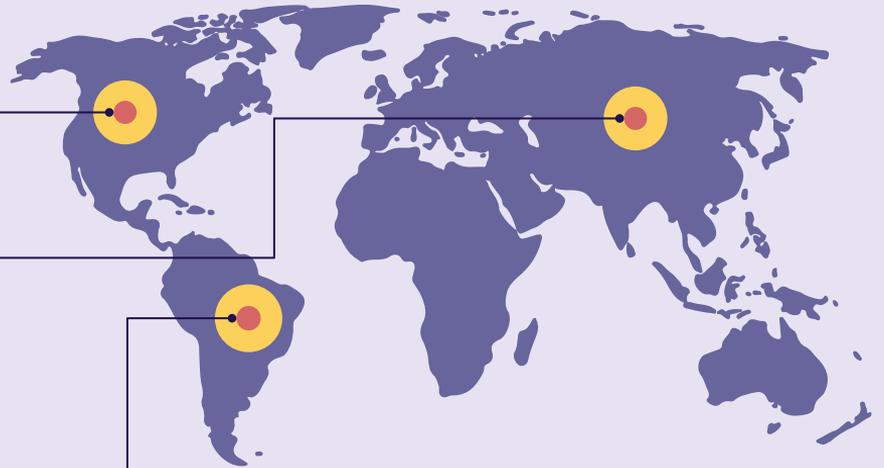
Mercury is the closest planet to the Sun

VENUS

Venus is the second planet from the Sun

JUPITER

It's the biggest planet in the Solar System



15,000,000

TARGET

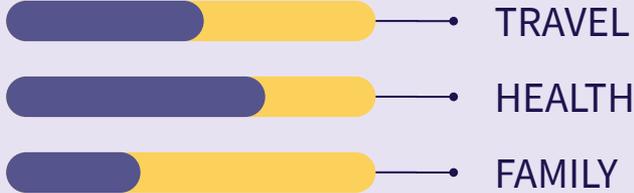
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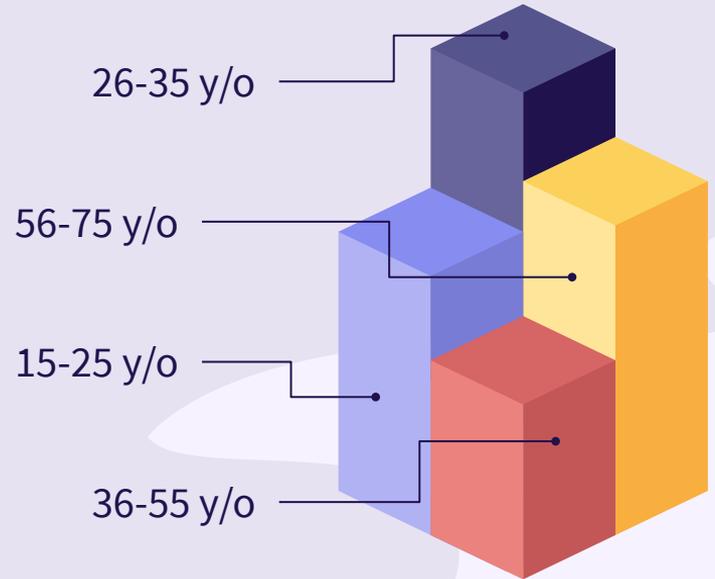


GENDER



\$50,000

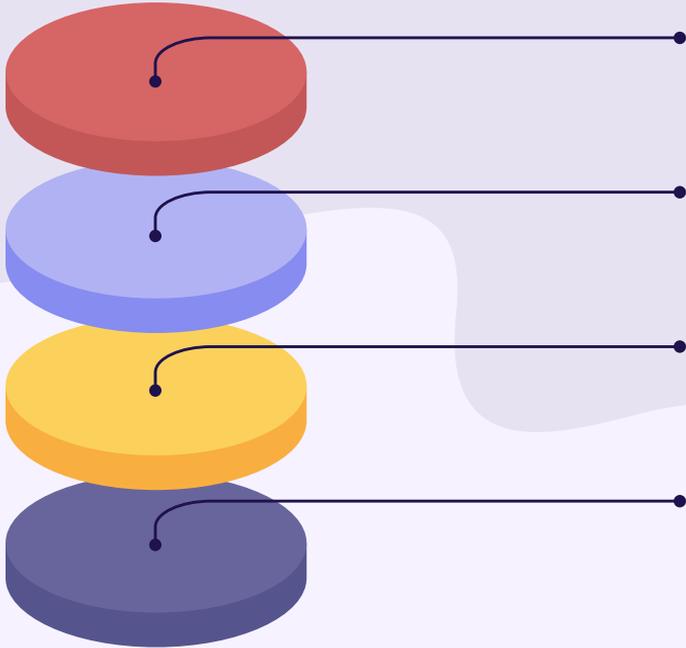
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**A PICTURE IS
WORTH A
THOUSAND
WORDS**

OUR PROCESS



1

Mercury is the closest planet to the Sun

2

It's the biggest planet in the Solar System

3

Venus is the second planet from the Sun

4

Saturn is the ringed one and a gas giant

OUR CONSULTANTS

The planet's name has nothing to do with the liquid metal since it was named after the Roman messenger god, Mercury



OUR PARTNERS



JUPITER

It's the biggest planet in the Solar System

Mercury is the closest planet to the Sun



MERCURY



MARS

Despite being red, Mars is a cold place

TESTIMONIALS



HELENA JAMES

“Mercury is the closest planet to the Sun”



JENNA DOE

“Venus is the second planet from the Sun”



JOHN SMITH

“Despite being red, Mars is a cold place”



SAMUEL NELL

“It’s the biggest planet in the Solar System”



PENNY HENRY

“Saturn is the ringed one and a gas giant”



EVAN LEE

“Neptune is the farthest planet from the Sun”

AWARDS

MERCURY

Mercury is the closest planet to the Sun

VENUS

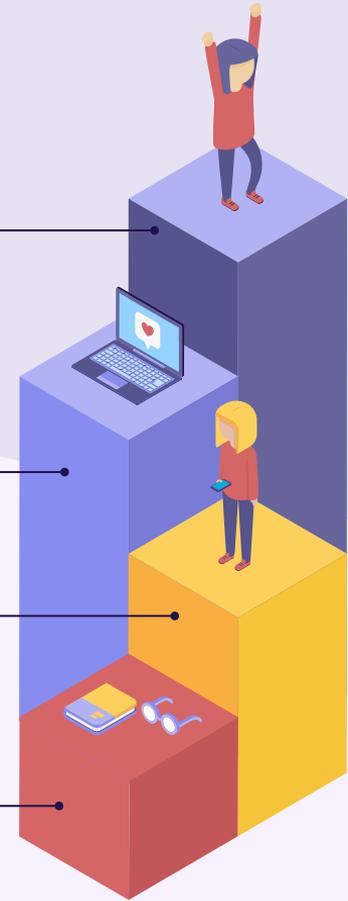
Venus is the second planet from the Sun

JUPITER

It's the biggest planet in the Solar System

SATURN

Saturn is the ringed one and a gas giant



333,000.00

earths is the Sun's mass

24h 37m 23s

is Jupiter's rotation period

386,000 km

is the distance between Earth and the Moon



AWESOME WORDS

Because key words are great for
catching your audience's attention



UPCOMING GOALS

GOAL 2
Mercury is the
closest planet

GOAL 1
Jupiter it's the
biggest planet

GOAL 4

Mars is a very
cold place

GOAL 5
Saturn is the
ringed one

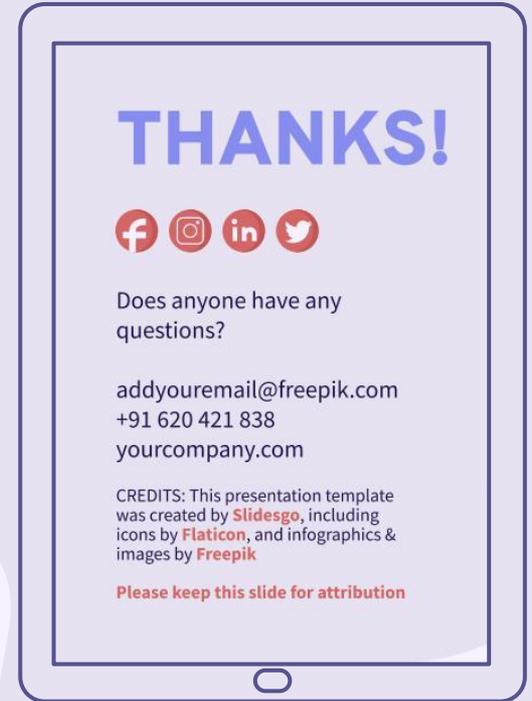
GOAL 3

Neptune is the
farthest planet



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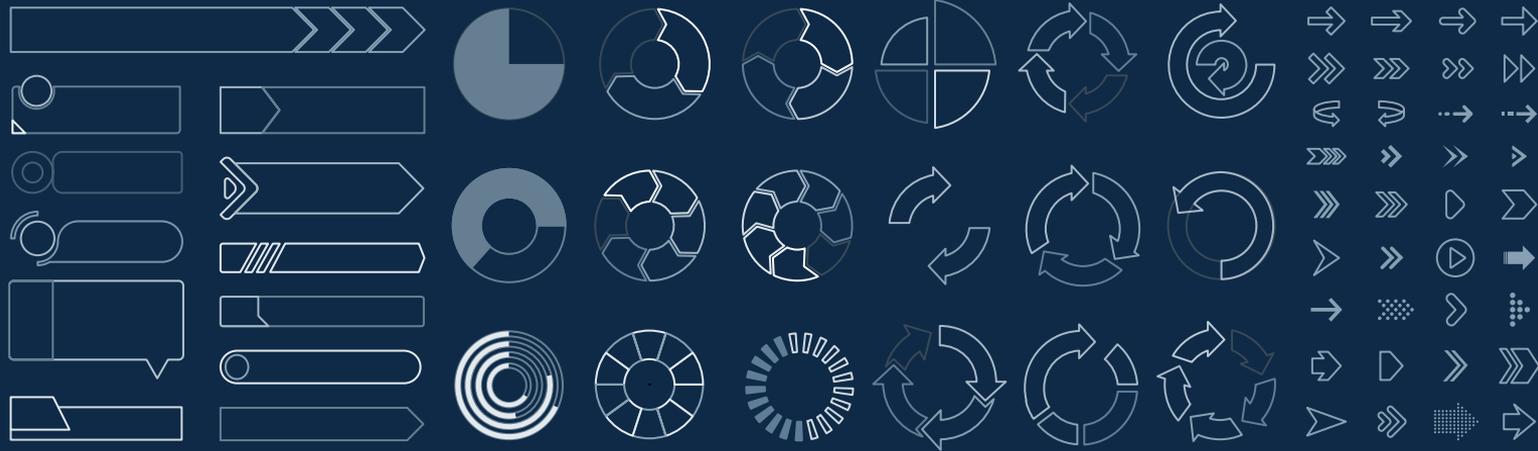


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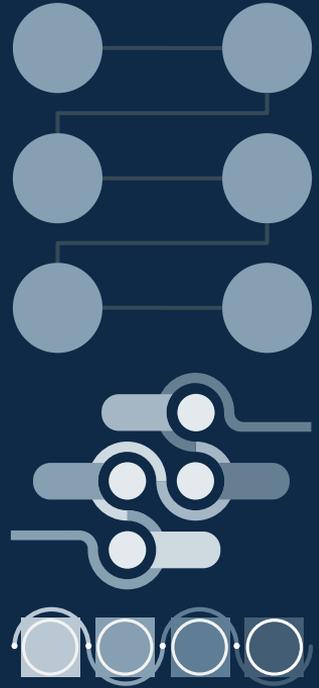
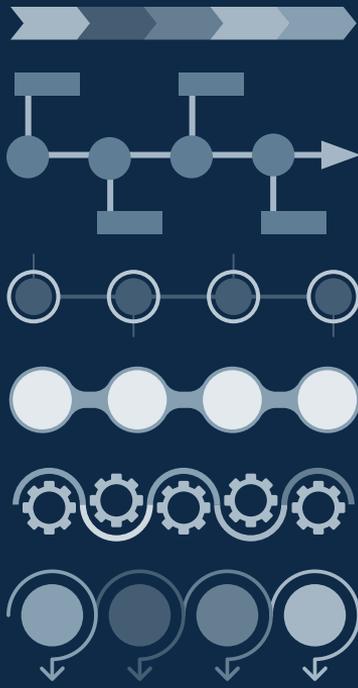
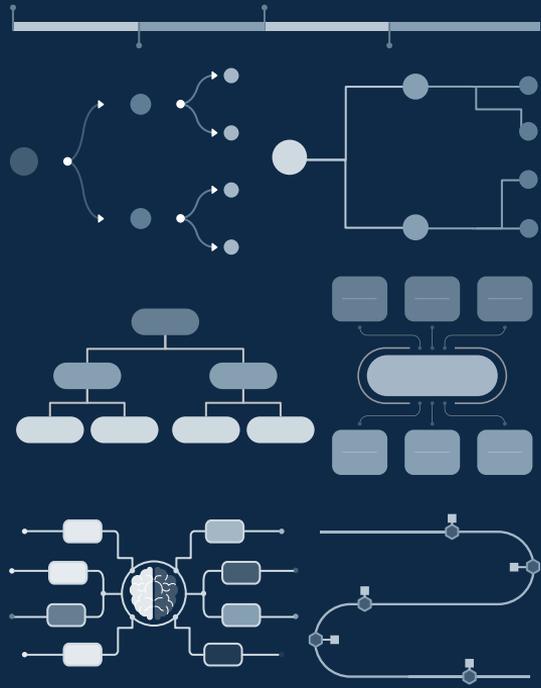
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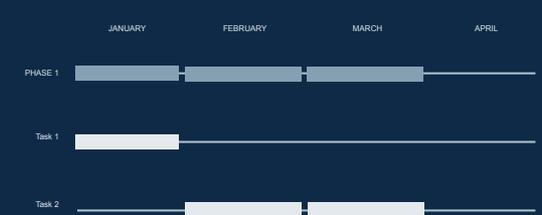
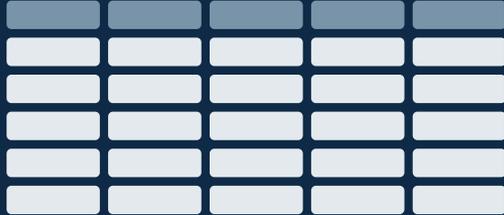
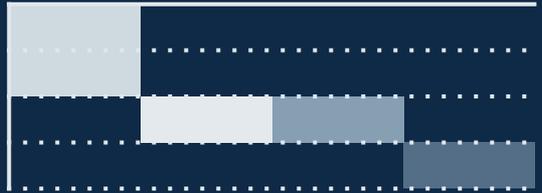
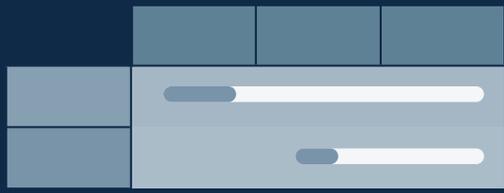
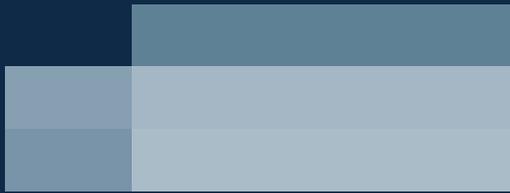
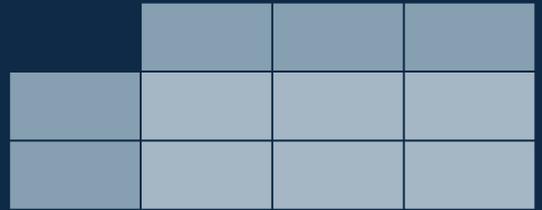
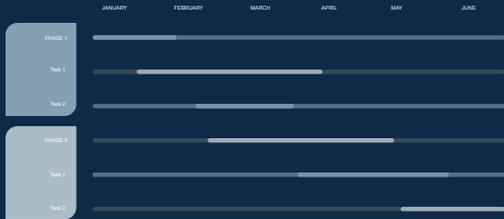
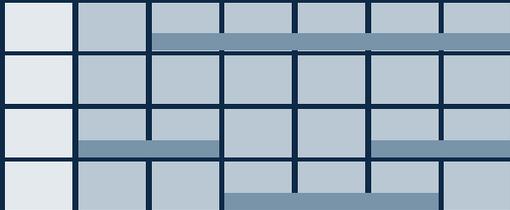
You can easily [resize](#) these resources without losing quality. To [change the color](#), just ungroup the resource and click on the object you want to change. Then, click on the paint bucket and select the color you want.

Group the resource again when you're done. You can also look for more [infographics](#) on [Slidesgo](#).

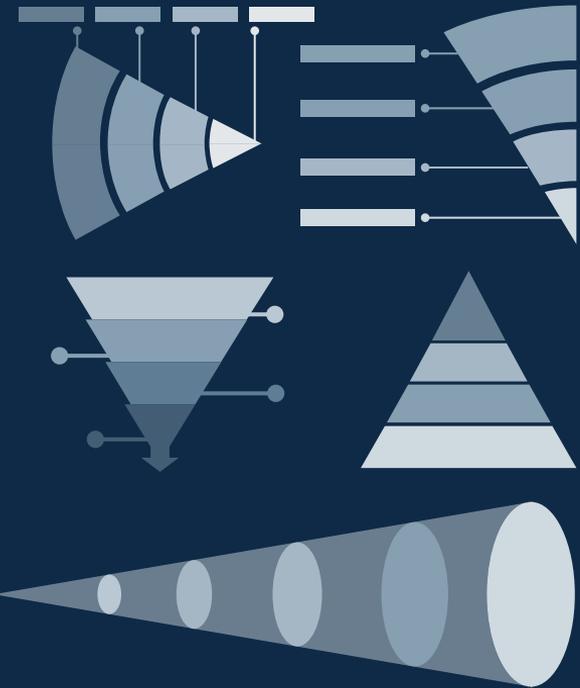
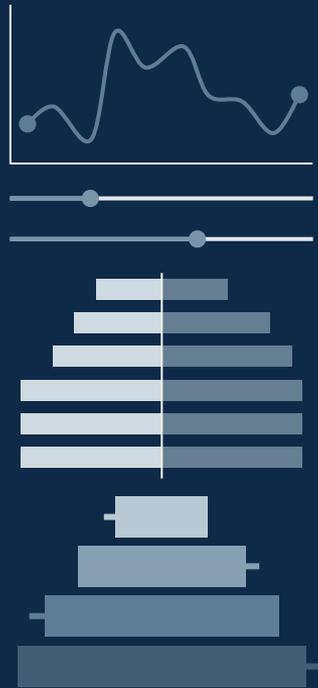
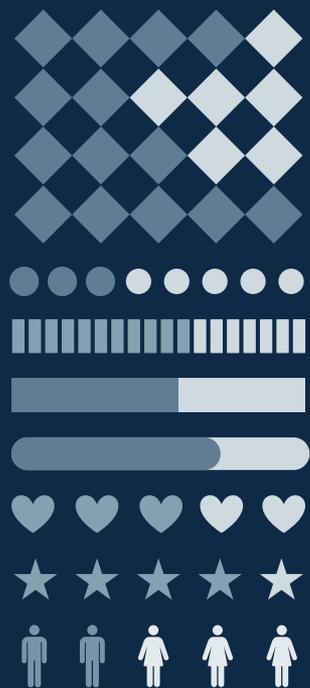
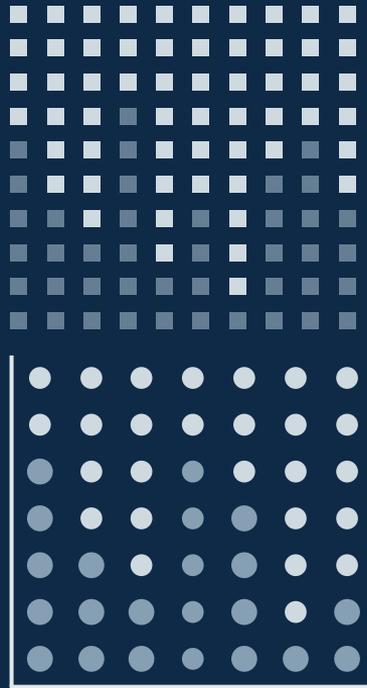












...and our sets of editable icons

You can resize these icons without losing quality.

You can change the stroke and fill color; just select the icon and click on the paint bucket/pen.

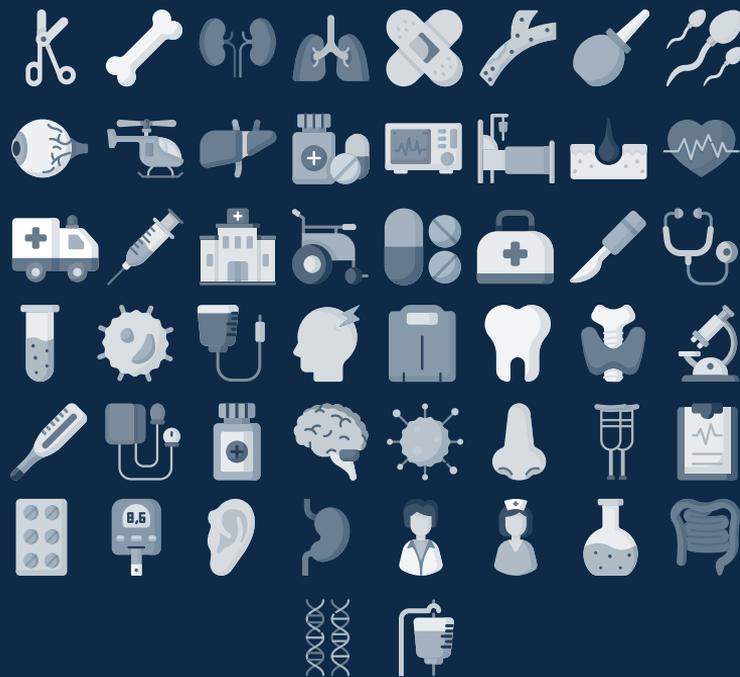
In Google Slides, you can also use [FlatIcon's extension](#), allowing you to customize and add even more icons.



Educational Icons



Medical Icons



Creative Process Icons



Performing Arts Icons



Nature Icons



SEO & Marketing Icons



