Ivy Consulting Group

5.03 Assessments & Selection

Asking the Right Questions

A Statistical Analysis to Avoid Costly Hiring Mistakes

"Changing Lives One Workplace at a Time"

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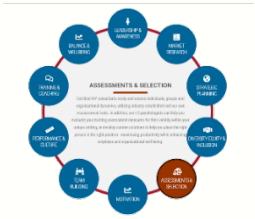

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Disruption and Opportunity

At the height of the pandemic, more than 120,000 businesses temporarily shut down, and more than 30 million US workers were unemployed. Then, when companies opened up for business, a record 3.8 million new jobs were added in 2021 alone. However, instead of returning to work, an unprecedented number of workers decided to go in another direction.

In October 2022, the US Chamber of Commerce reported that over 10 million jobs were available – but only 6 million unemployed workers. After conducting a survey to find out why 27% of the unemployed workers indicated the need to be home for children made returning to work difficult. Twenty-eight percent (28%) indicated that they had been ill, and their health had taken priority over looking for work. Additional factors included some opting to go back to school to learn a new trade, so when they returned to work, there were doing something they loved. When and if these workers will return to the workforce is not clear. All we know at this point is that things have changed, leaving a talent gap and employers scrambling to find quality people. The good news is that with disruption comes great opportunity.

For **employers**, the opportunity comes in the form of rethinking corporate strategy, installment of new technologies, and for some businesses who transition to a work-from-home or hybrid environment, the potential for significant expense reduction.

For **employees**, this disruption can mean new job opportunities, higher salaries, improved benefits packages, and, eventually, a better work environment. And while the blessing may not be apparent, the chaos experienced during the 2019 pandemic has been the perfect storm forcing many to rethink life's priorities. But, like the renewed forest after a devastating wildfire, millions will strive for a better life as they recommit to dreams and live more intentionally.

Finally, an opportunity exists for professionals in the Industrial-Organizational Psychology industry to make a difference in the workplace like never before. Workers have made a bold statement demanding respect in a safe and equitable work environment, with equal wages, flexible hours, and a team that accepts them, no matter how different they may be. In addition, the media attention questioning employment and hiring practices has forced employers to take notice and make a change.

In this advanced lesson plan, we will detail one of those opportunities – creating customized workplace assessments that match the right person with the right team and opportunity. It may seem difficult at first. But for those who commit to the process, the result will be a more engaged, motivated, and productive team.

Let's get started!

Jeff Hastings, Founder

Ivy Consultanting Group, Inc.

Assessments in Hiring

The unprecedented challenges brought on by Covid-19 have forced business leaders to change how they think, strategize, and treat their people. In addition, to the frustrations in dealing with an exhausted workforce and talent gap, human resource professionals must find new ways to handle grievances, new hires, and a remote workforce. Unfortunately for large and small businesses alike, failure to act and make the necessary changes can threaten even the most established company's survival.

However, the talent gap and people management issues cannot be blamed on the pandemic. In a survey measuring the *Stress of the Business Owner* conducted between 2013 through 2019, 82% (209 of 256) of small business owners agreed that people management was at the top of their list (Ivy Consulting, 2021). Moreover, the financial payoff for solving talent issues is massive. Experts predict the personality and workplace assessment market will grow from a pre-Covid $500 million per year industry to over $2 billion in a few short years.

But before business owners run out to install a test in their hiring practice, they should be aware of the potential implications. Unfortunately, many of the most popular assessment providers may not be prepared to provide accurate prediction models or conform to the demands of a diverse, equitable, and inclusive selection process. Especially problematic is the widespread use of Four Quadrant (4Q) personality assessments which are more of an indicator of individual preferences than a statistically reliable and valid personality scale. A 4Q assessment uses a self-report questionnaire of chosen adjectives to classify and label a person in one or more quadrants. The two most widely used 4Q assessments are the Myers-Briggs Type Indicator (MBTI) and Wiley's DiSC Profile. And while self-report scales can be beneficial in understanding the interests and desires of the participant, they are prone to scoring errors and recruiter bias. Therefore, any employer utilizing self-report assessments in the hiring process should question such instruments' validity and legality.

A Word of Caution

For personality tests, the term "*objective*" is often used by test creators, which insinuates that with no required administrator interpretation, the test is accurate as results are a reiteration of candidate responses. However, this relies on the candidates' honesty, understanding of the question posed, self-knowledge, and accuracy of self-image. On the other hand, when tests are *subjective*, interpreter training and personal bias can interfere with test accuracy. Accordingly, experts warn that while some psychometric tests can help predict personality or preferences, using assessments pre-hire and for the purpose of making a hiring decision should be used with extreme caution (HBR, Harrell, 2017).

Not all psychological assessments are flawed. The Five-Factor Model (see Appendix C) and the NEO Personality Inventory have proven over the years to be statistically reliable and valid. However, understanding personality is not enough to accurately predict how someone will perform on the job and are most effective when combined with other assessments measuring such things as job skills, integrity, or cognitive ability. Keeping up with the latest research and combining the right assessments for a job is not an easy task. Failure to select the right combination can lead to costly hiring mistakes and result in a discrimination lawsuit. Therefore, employers should seek help from a certified professional before incorporating them into the hiring process.

Some employers may wonder if using assessments in hiring is worth the risk. When investigating risk versus reward, a good place to start would be to calculate the cost of a bad hire.

The Costly Mistake of a Bad Hire

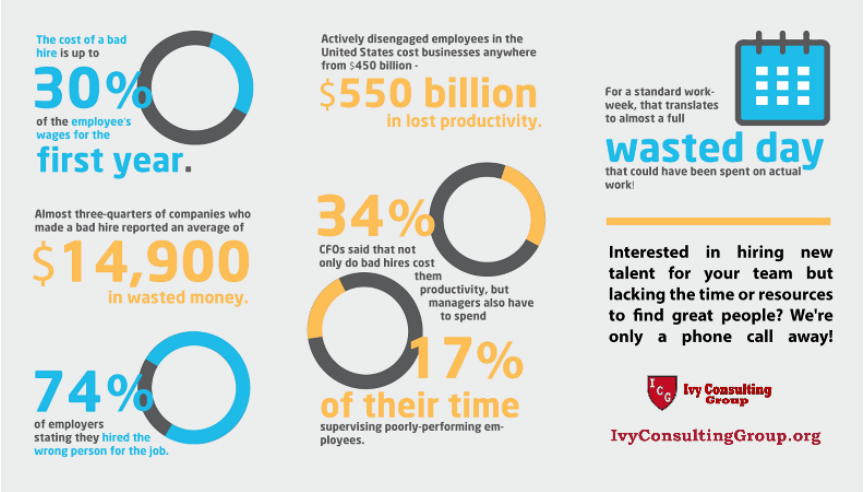
Before you stop using assessments in your hiring process, consider what making a mistake can cost your organization. If your hiring process relies primarily on interviews, reference checks, and personality tests, you will make hiring mistakes. Just ask any experienced recruiter about hiring nightmares, and you will get an ear full. And while they may have an idea or thought about a red flag they should have noticed, the truth is that most continue to make the same mistakes repeatedly, costing the company thousands in the process.

Unfortunately, hiring mistakes are common, and there is no magic bullet to tell you who is the perfect candidate for the job. The reason has a lot to do with past experiences, personal beliefs, and in some cases, the pressure to fill a position. During an interview, it's hard not to allow emotions and feelings to enter our minds. After all, we are human. However, to develop an effective recruiting system that selects the best candidate for the job, recruiters must have the self-awareness to understand how experiences and personal bias come into play. In addition, recruiters must maintain a high moral compass to prevent prejudgment throughout the process. Giving any candidate an unfair advantage or disadvantage is not only wrong but also illegal.

So, how much did your last hiring mistake "really" cost?

To understand the cost of hiring mistakes, you must consider more than the lost wages and benefits. The US Small Business Administration (SBA) notes that hiring one worker costs around 1 ½ to two times the person's annual base salary. And that's just for starters. Additional expenses to consider include:

- Advertising and recruiting costs
- Onboarding and training expenses
- Lost opportunities and productivity in the workgroup
- Impact on morale and frustrations of team members
- Customer's interpretation of turnover as an unprofessional work environment
- Possible negative business reviews from a disgruntled former employee



Avoiding Hiring Nightmares

Introduction

In lesson plan 7.02 *Hire the Right People and Teach Them the Right Things to Do*, top performers (past or present) are analyzed to determine what personality traits, experiences, and characteristics distinguished the great ones from the not-so-great. If you have completed that task, you can skip this section and move on to **People Strategy** on the next page.

For this section, consider your most frustrating hiring mistake or a current job you are trying to fill. While it is not a requirement, it's beneficial if you evaluate a position that requires the employee to be motivated or where performance is measurable. Then, when you know which position you would like to consider, take a moment to look back at the people who have held that position. When you complete the first step in the following pages, you will try to identify trait similarities and differences between the two groups (Top Performers vs. Bottom Performers). With this information, you will have the data to construct a structured interview questionnaire that perfectly matches your office culture, job expectations, and team dynamic.

Questions to Ponder

1. When considering your best hires, what similarities did they share?
2. Now, think about the worst employees you have hired and ask yourself if there are any missing elements or differences between them and your most successful employees.
3. Did you spot these issues during the interview? If not, should you have noticed?
4. What are your company's minimum requirements for this position?
5. Did you provide your employee with a clear Employee Agreement outlining job expectations?
6. What training did you administer to help improve the employee's likelihood of success?
7. How many people did you interview before making your worst employee an offer?
8. Could a personality profile have helped identify red flags before hiring?
9. What could your team have done differently to create a better outcome?
10. What are you willing to do now to prevent this from happening again?

Considering the answers to the questions above is a vital part of this lesson plan. As a business owner or leader of your organization, when a member of your team fails, it is imperative that you take ownership of your part of the process. In addition to the costs in your business, your employees who fail are not without personal costs. A damaged feeling of self-worth, embarrassment, and loss of income can devastate a person's mental health, causing depression, divorce, and in rare cases, worse.

COMPLETE THIS LESSON PLAN. DO THE WORK. PEOPLE ARE COUNTING ON YOU.

People Strategy

POSITION TO BE FILLED: Write position here

When developing your interview questionnaire, we will use a fundamental statistical research method to determine what it takes for an individual to become a successful and valuable team member. While the steps in this correlational study may seem intimidating initially, rest assured that the time and effort you expend here will be well worth your time. **And if you need help, an Ivy Consultant is only a phone call or email away**.

Correlational Study

As an experienced recruiter, you have a preconceived idea of what it takes to succeed in the position above. The observations you've made along with your HR paperwork can be all the data you need to determine what to look for when evaluating job candidates. Using this data, you will now make your best guess of what qualities you believe make a great hire (your hypothesis) and then play the role of the researcher to test this belief.

A correlational design study (CDS) is a descriptive research method that examines the degree of relationship between two or more variables. If the variables are correlated, when given a measurement of one variable, we can predict the value of the other. The stronger the correlation, the better our ability to predict. The steps covered in this lesson plan will include the following:

1. **Create a hypothesis**
2. **Choose a data collection method (surveys, observation, secondary data)**
3. **Collect data**
4. **Analyze results**
5. **Create a Structured Interview Questionnaire**

While you may not have enough data (30 – 100 participants is an ideal dataset), your continued research will help improve the validity of your test statistic and predictive model.

Your study will evaluate what effect your **independent variables** (i.e., education, experiences, personality traits) identified in Part II of this worksheet have the greatest impact, if any, on your **dependent variable**, which is "success in a sales role." Once we understand the correlations of our variables, we can build a predictive model that will help evaluate candidate potential and, ultimately, make better hiring decisions.

Interview Questionnaire

After all the hard work has been done, you will use all the data in your pilot study to create a **structured interview** questionnaire to gather relevant data. Each answer will be weighted according to statistical significance, providing an objective way to score and evaluate each candidate.

A Brief Overview of Statistical Concepts

Like most recruiters, you may not be all that familiar with statistical concepts or predictive models, and that's understandable. The good news is that you don't have to be. Instead, this lesson aims to give you a few essential tools to understand how data and a few statistical methods can significantly improve your ability to hire the right people and teach them the right things to do.

Although it will not be necessary to fully understand the mathematical equations used in a predictive model today, it is worth mentioning a few more frequently used terms, such as variable, *p-value*, significance testing, correlations, and regression analysis. One of the most important but often confusing concepts is probability value. Referred to as "*p-value*," it is a number used to prove whether the researcher's hypothesis is true or false. This basic concept is often confusing and opposite of what you may think. For this reason, we will start our study with an example and end with statistical definitions.

It helps first to understand the following concepts:

1. Your ***assumed hypothesis*** is your "best guess" to prove to others why you are correct. If everyone thought the same way as you, there would be no reason to conduct your research.
2. What others think is referred to as the ***null hypothesis***. If the null hypothesis is correct, your assumptions are incorrect.
3. The ***p-value*** is the probability that you are correct. Here is where it gets confusing. The *p-value* ranges from zero (you are correct, and there is zero chance that the NULL Hypothesis is correct) to 1 (100% chance that you are wrong and they are correct).
4. The closer the *p-value* is to zero, the better chance that you are correct in your hypothesis (you have disproved the null hypothesis). The double negative is what confuses the masses.
5. Most researchers set *p-values* at .05. If the p-value is less than or equal to .05, it would mean that 95% or more of the time, your hypothesis will show to be true given the same environment and variables tested.

Confusing? You are not alone. To help clarify, consider the example on the next page.

PROBLEM: *Before new sales representatives can be hired, your company requires a minimum of a 4-year college degree. You become frustrated because you are losing great people and have noticed that your top producers never attended college. Before going to the corporate office, you gather data and want to make sure that generally accepted statistical methods are used to validate your belief.*

YOUR HYPOTHESIS: Success as a sales representative is not dependent on educational attainment.

NULL HYPOTHESIS (what others believe): Someone who has earned a college degree has a greater chance of success as a sales representative.

INDEPENDENT VARIABLE: College Degree

DEPENDENT VARIABLE: Success in Sales

RESEARCH QUESTION: Are the two variables correlated? Once enough data has been gathered, the variables will either show no correlation, be positively correlated, or be negatively correlated.

- *No correlation* would mean that success does not depend on educational attainment.
- A *positive correlation* would imply that the higher one's educational attainment, the greater success one would have as a sales representative.
- A *negative correlation* would mean the higher a person's educational attainment would imply the less success they would achieve as a sales representative.

RESULTS: After gathering all the data, your *p-value* is .025, which is excellent news. Since this value is less than or equal to .05, your test shows statistical significance, which means you have proved your theory! Therefore, a college degree is not required for someone to become successful as a sales representative in your company.

IMPORTANT:

This lesson plan provides basic statistical concepts and is not to be a guide for publication.

For a more thorough analysis, including details of similar studies performed, see Lesson Plan 5.03e.

Definitions of the statistical terms and more can be found in Exhibit D.

STEP 1: Create Your Hypothesis

During this pilot study, you will create a hypothesis which is your "best guess" and belief to be the most important qualities a candidate must have to succeed in the position evaluated. Need help? A list of example qualities to look for can be found in Section 1B.

Use Section 1A below to write down your thoughts, and then, in one sentence, make your hypothesis based on the two or three you believe to be the most significant.

In order to succeed in the following position,

_____, a(n) employee must have the following characteristics

_____, _____, and _____.

1A. Evaluate the background, skillset, and personality traits desired

To avoid costly hiring mistakes, it is critical to understand what to look for in an interview. Your People Strategy includes identifying certain traits, characteristics, and experiences to look for and what to avoid when interviewing new candidates. To begin, think about your best employees who succeeded in this position. What was it that made them special?

Don't overthink it. Just write down everything that comes to mind.

1B. Select traits and experiences to measure

In this step, you will use information documented in Section 1A and the list in the table below to help you build a list of potential variables to measure. In this study, you will use observational data (observed experiences or best guess) and a simple mathematical formula to understand the strength in the relationship between each independent variable and success (dependent variable). Once we have determined the correlation, we will remove the weak or uncorrelated factors from our research.

Start with at least 10 – 15 variables to measure.

Potential Independent Variables

Examples of Independent Variables to consider for measurement are noted in the table below.

Experience	Background (Y or N)	Personality Traits
• Education (select) • GPA or Test Scores • Industry Experience (Y/N) • Job Type Experience (Y/N) • Past Success (Y/N) • Positive Recommendation • Computer Skills	• Family Support • Bilingual • Community Involvement • Large Social Network • Established Niche Market	• Positive or Negative Outlook • Motivated or Unmotivated • Consciousness • Emotional Stability or Neurotic • Passive or Aggressive • Introverted or Extroverted • Team or Individual Work • Openness to experience

The most important variables to measure are:

Variable A: _____ Variable F: _____

Variable B: _____ Variable G: _____

Variable C: _____ Variable H: _____

Variable D: _____ Variable I: _____

Variable E: _____ Variable J: _____

STEP II – Choose Your Method of Data Collection

In today's market, having a vast amount of accurate data is critical to business success. Understanding why your customers buy, leave, and even consider your services in the first place can drastically improve your bottom line. When it comes to employees, understanding what motivates them and how to create an environment that allows them to maximize their potential is no different.

When conducting interviews, employers collect data from resumes, applications, job appraisals, prior employer recommendations, background checks, social media, and more. However, a surprising number of small business owners do little to document and use this data to improve company performance. If this is true of your organization, there is no better time than the present to start building your database of good, legally obtained employee data.

IMPORTANT NOTE:

Please consult with a legal professional to ensure your data collection procedures comply with all state and federal laws.

US regulations can be found on the EEOC website:

Eeoc.gov/data/eeo-data-collections

UK regulations can be found on the GDPR website:

Gdpr-info.eu

Data Collection Method

Observational data is gathered by watching behavior and events or noting physical characteristics in a natural setting. Observations can be overt (the participant knows they are being observed) or covert (the participant does not know they are being observed). For the purpose of this lesson plan, we will assume you have previously gathered and documented observational data through previous interviews.

Employers With No Data

In the absence of data, unless you are knowledgeable in psychometric theory, you may need to hire an expert who can help you create and compare your interview questionnaire to statistically validated tests that measure similar constructs. This process is covered in 5.4e, the extended version of this lesson plan, and available through a Certified Ivy Consultant.

STEP III – Collect Data

While you will not use all of the data collected in this assignment, if you choose to make a more detailed statistical analysis, the data will become essential when using regression analysis in your model to predict success rates.

Write down as many past employees that have held the position in the past. Then, for each employee, complete the corresponding columns. Convert categorical data into numerical values for easy calculation and comparison. For instance, for Performance Rating, because of our small data set, we will use a 5-point rating scale: 1) Best 2) Above Average 3) Average 4) Below Average 5) Worst

We have included a sample dataset in Table A below.

Table A. Observational Data

EMPLOYEE NUMBER	DATE HIRED	TERM DATE	TERM REASON	POSITION	TEST SCORE	INTERVIEW SCORE	PERFORMANCE RATING	A	B	C	D	E	F	G	Notes
1							1	1	1	0	1	1	1	0	
2							5	1	1	0	0	1	1	0	
3							1	1	1	0	1	1	1	0	
4							2	1	1	0	1	0	1	1	
5							3	0	1	0	1	0	0	1	
6							2	0	1	0	1	0	1	1	
7							1	1	1	0	1	1	0	0	
8							1	1	1	0	1	1	1	0	
9							4	1	1	0	1	1	1	0	
10							2	0	1	0	1	0	1	1	
11							5	1	1	0	0	0	1	1	
12							1	1	1	0	0	0	1	1	
13							2	0	1	0	0	1	1	0	
14							1	1	1	0	1	0	0	1	
15							1	0	1	1	0	1	1	0	
16							4	0	0	1	0	1	1	0	
17							1	1	0	1	1	0	0	1	
18							2	0	0	1	0	0	0	1	
19							1	0	0	1	0	1	0	0	
20							5	0	0	1	0	0	0	1	

TEST SCORE: If you use a pre-hire assessment now, input the score from that test here.
INTERVIEW SCORE: At the end of this lesson, you will create an interview questionnaire using a weighted scoring system. As candidates progress in their careers, adjustments can be made to predict performance in future interviews more accurately.
PERFORMANCE RATING: How you rank the performance of each employee in the corresponding position. As employees promote, create a new row of data to track performance in the new role.
A – G: These columns are for each variable you are measuring. Use "0" for no and "1" for yes.

*Use Microsoft Excel or Google Sheets to help you create the spreadsheet below.
*If you are working with an Ivy Consultant, he or she can provide a template to help you get started.
*To identify potential hiring practices violations, consider tracking age, race, ethnicity, gender identity, and other demographic data. See lesson plan *4.4 Self-Awareness and Overcoming Personal Bias*.

STEP IV – Analyze Data

There are two ways to determine the strength of a correlation between our independent variables to our dependent variable (success). First, we can conduct a quick factor analysis showing the frequency percentages of a given variable in our desired outcome group. The next is to determine the strength of each variable by calculating each group's **correlation coefficient**. Because the correlation coefficient requires a basic understanding of statistical methods, we wait to cover those methods in a more advanced course.

4A. Factor Analysis: Determine Frequency Values

Table 2. Frequency Values

Determine the frequency of occurrences of each variable (A – G) within each performance rating category.

PERFORMANCE RATING	A	B	C	D	E	F	G
1	7	9	0	8	6	7	3
2	3	5	0	2	1	4	4
3	0	0	1	1	1	1	1
4	1	0	2	2	2	2	2
5	0	0	2	2	2	2	2
(total sample) n	11	14	5	15	12	16	12

4B. Factor Analysis: Determine Percentages

Table 3. Percentages

Divide the total frequencies from Table 2 by the total number (n) of samples in each category.

PERFORMANCE RATING	A n=12	B n=14	C n=5	D n=15	E n=12	F n=16	G n=12
1	63.64%	64.29%	0.00%	53.33%	50.00%	43.75%	25.0
2	27.27%	35.71%	0.00%	13.33%	8.33%	25.00%	33.34
3	0.00%	0.00%	20.00%	6.67%	8.33%	6.25%	8.34
4	9.09%	0.00%	40.00%	13.33%	16.67%	12.50%	16.67
5	0.00%	0.00%	40.00%	13.33%	16.67%	12.50%	16.67

Even with limited data, we can see how variables A and B appear to be the most prominent with level 1 and 2 performers. Furthermore, the same variables are almost non-existent in our worst performers. This basic calculation is considered the **First Rule of Probability**, and it is written as:

***P* (A | B)** The probability of A (outcome variable = success) given the independent variable B occurs.

In a more advanced lesson, we will cover **Joint Probability** and Disjoing **Probabilities**.

Step V - Create a Structured Interview and Scale

With the first four steps of your research complete, it's time to complete the final step in your pilot study. This step involves creating a Structured Interview Scale (questionnaire) that will uncover the most likely factors leading to job success.

A **Structured Interview Scale** simply means using the same interviewing methods to assess candidates applying for the same job and then scoring each question to the standardized weights placed on each measured item. Research shows that structured interviews can predict candidate performance, even for unstructured jobs. Most questions in your structured interview will be closed-ended, where each answer can be easily scored and rated. For open-ended questions, the interviewer will need to apply the candidate's response to a set of values so that each question can be numerically rated and compared against answers from other job candidates.

5A. Creating Your Questionnaire

Step 1: Conduct Research. Many research studies measure what it takes to become successful at work. For example, there are scales to measure intelligence (The Wechsler Adult Intelligence Scale), personality traits (The Five Factor Model), grit (The Grit Scale), and motivation (Mettl Motivation Inventory), to name a few. Use previous research and existing scales to match the qualities you want to measure.

Step 2: Create Your Questionnaire. Combine all the questions you have found to build a perfect interview. Questions should contain items that will help you develop a semi-structured (c combination of open and closed-ended questions) and legal way of obtaining the data you need for a thorough analysis. While building out this pilot study, include 25 to 50 interview questions you intend to measure as your scale. After completing the pilot study, you will eliminate questions that are not significant or helpful in your interview.

Step 3: Categorize each question into like measures. Your questions can be categorized by variables such as preparedness, grit, perseverance, social support, experience, or intelligence.

Step 4: Create a measurable scale. Next, separate the measurable questions from your interview to create a testing template. Assign values to each question you would like to measure with the total possible equal to 100. While we will not cover the details of statistical validation in this lesson, give it your best guess and base your scale on the item's relevance or significance value. Make the calculation of your scale simple.

For an example, see Angela Duckworth's 12-question scale, which has been proven to accurately measure one's grit (see Exhibit C for details).

Step 5: Test your scale. Have your existing employees and have them take your scale. Did the scale accurately match your evaluation of performance? If not, adjust the scale and start testing new interview prospects.

NOTE: For those interested in creating a statistically valid measure, in addition to your scale, consider asking those in this pilot study take similar scales that have proven to be significantly reliable. If your scale predictor matches, it is possible your scale will become statistically significant and reliable!

5B. Reduce Scale to a Minimum

The more questions you measure, the higher the chance of error. While you do not need to eliminate questions from your interview, you should reduce the number of questions you will measure to a bare minimum. Most personality scales include 15 – 20 questions.

5C. Test and Retest

Continue to add data and adjust when necessary. The more data you can evaluate, the better your chances of developing an accurate measurement and predictor of success. More importantly, you will be less likely to make a wrong hiring decision.

5D. Seek the Assistance of a Professional

Statistical methods and modeling are not easy to understand. Furthermore, the process of measurement taught in this lesson plan is more about the fundamentals and importance of data collection so that, when you are ready, you will have the data needed to create a more reliable predictor of workplace success.

Bringing it All Together

With a new understanding of personality dimensions and data at your disposal, you should be better prepared to make successful hiring decisions. Below is a list of some of the topics discussed to help bring it all together.

1. **Understand what background, skillset, and personality traits are essential for success**. If you do not have a long documented interview history or psychometric profile from which to draw data, you must first recreate the data as best you can. Using an Excel spreadsheet, list different personality traits, characteristics, and experiences that you believe are important for a new team member to succeed in each position. Additional columns may include Interview Dates, Assessment Results, Contact Information, Recruiting Source, Recruiter Name, Current Status, Success Date, Termination Date, Termination Reason, Achievements, Support (Y/N), Education Level, Industry Experience, Sales Experience, Investable Assets (for business owners), Community Involvement, Relationship Status, and Identified Niche Market. Once created, add as many past hires as possible and then look for correlations between the measured items and career success. For more information, see lesson plan *5.7 Analyzing Potential for Success*.

2. **Develop a questionnaire**. Amatuers "wing" interviews. To identify the best candidate for your job opening, develop a list of relevant questions and listen intently to your candidate's responses. For more information, see lesson plan *5.4 Personality Tests and Hiring Assessments 101*.

3. **Utilize a career assessment tool or personality inventory**. Without using it to make hiring decisions, use the Five Factor Model to help identify personality traits that give your candidate the highest probability for success. Business owners are provided a free account on our website, can list job openings, and even have candidates complete the Five Factor Questionnaire by clicking here: https://ivyconsultinggroup.org/surveys/five-factor

4. **Do not get emotionally connected during the interview**. No matter how someone looks or is excited about being hired, take your time and complete the process. For more information, see lesson plan *5.5 Your Recruiting System*.

5. **Interview at least 7 – 10 applicants before hiring one**. Don't hire the first person who walks into your office. When you have three or four great candidates, it may be challenging to make your decision, but that's a good problem to have!

6. **Test your applicants**. Require applicants to conduct surveys to research customer needs, expectations, and frustrations. Once complete, applicants have a better idea of how they can sell products and differentiate themselves from the competition. In addition, if hired, these surveys will serve as a great way to help your new employee get off to a fast start. For more information, see the Interview and Lead Generation System at https://Top-Recruit.co.

7. **Create clear and measurable standards**. Making sound financial decisions is vital for any size business. Employee wages are undoubtedly one of your highest costs, and it is essential that you calculate a reasonable timeframe and performance expected to make your new team member a profitable investment.

As an Addendum to the Employee Agreement, the Minimum Performance Standards (MPS) should be negotiated and agreed to by all parties involved. The MPS should identify minimum performance expectations and stretch goals. Include a form for your new employee to complete monthly reporting on completed work. When performance is below expectations, employees analyze their performance and set specific, measurable, and actionable goals.

8. **Understand your responsibility as a recruiter and leader of your organization.** A bad hire is not entirely the candidate's fault. You selected them for the job, and whether or not you promised verbally, it can be assumed you would help your new hire succeed. Every time a team member fails, look to yourself to determine what could have been done to prevent the tragedy of termination.

9. Provide structured training. Training is one of the most important aspects of any successful business, as it ensures that your team has the knowledge and skills needed to perform their jobs effectively. Training should cover all the basics, from the fundamentals of the business to the specific tasks each team member needs to know to do their job. It should be tailored to the organization and cover customer service, product knowledge, safety, and operational procedures.

Consultant Worksheets

EXHIBIT A - The Five-Factor Model

When researchers set out to evaluate what it takes to succeed in sales, it's not uncommon to see evaluations citing the Five-Factor Model (Costa and McCrae, 2003). The model essentially breaks down several thousand identifiable personality traits into five basic dimensions, 1) extraversion, 2) agreeableness, 3) openness, 4) conscientiousness, and 5) neuroticism. Known as the "Big 5", the test consists of fifty items and takes 3 – 8 minutes to complete. When taking the assessment, participants rate each item as to how the word or phrase describes them as a person. While there are no "right" or "wrong" answers, the results provide valuable insight into how a person will respond in a given situation. The Big Five is the only psychometric test and personality model to gather scientific consensus in personality psychology.

Personality Trait	Low Scorer	High Scorer
Openness	Favors conservative values judges in conventional terms Is uncomfortable with complexities Moralistic	Values intellectual matters Rebellious, non-conforming Has an unusual thought process Introspective
Conscientiousness	Unable to deny gratification Self-indulgent Engages in daydreams	Behaves ethically Dependable, responsible Productive Has a high aspiration level
Extraversion	Emotionally bland Avoids close relationships Over-control of impulses Submissive	Talkative Gregarious Socially poised Behaves assertively
Agreeableness	Critical, skeptical Behavior is condescending Tries to push limits Expresses hostility directly	Sympathetic, considerate Warm, compassionate Likable Behaves in a giving way
Neuroticism	Calm, relaxed Satisfied with self Clear-cut personality Prides self on objectivity	Thin-skinned Anxious Irritable Guilt-prone

(To remember the Big Five, remember the acronym OCEAN.)

Personality is an individual's pattern of emotions, cognition, and behavior (Maslow et al., 1970). It has been described as a factor influencing how we interact and react in a given environment. When evaluating the effect it has on sales performance, it is not uncommon to see citations and even entire studies dedicated to the Five-Factor Model. Studies from Baririck and Mount (1991), Salgado (1997), Hurtz and Donovan (200), Gutin and Punnen (2006) believe conscientiousness is a valid predictor of sales performance and have the highest predictive validity in diverse occupations (Waheed et al., 2017). While Barrick and Mount (1991) believe it is extraversion and agreeableness.

- **Openness**. Openness to experience refers to an individual's willingness to listen to others' ideas and perspectives(Borghans, Duckworth, Heckman, & Ter Weel, 2008).
- **Conscientiousness**. Laporte (1992) has defined a person with the conscientiousness personality trait as an organized, punctual, and consistent.
- **Extroversion**. Ahmad, Allen, Andersen, and Anglin (2001) described extraversion as an individual's tendency to be outgoing, active, and assertive.
- **Agreeableness**. Agreeableness reflects the cooperation among individuals of a distinct nature who create social harmony (Beaumont et al., 2003).
- **Neuroticism**. Neuroticism is a personality trait that refers to negative emotional stability. Emotional stability involves a person's ability to remain steady in all circumstances (Samuels et al.,2002; Schmitt, Realo, Voracek, & Allik, 2008).

In 2013, Yang, Kim, and McFarland conducted research examing the impact individual differences had on sales performance. Specifically, the researchers examined the influence of conscientiousness, extraversion, and self-efficacy. Based on the distal-proximal theory of motivation, they developed a theory that states conscientiousness and extraversion are distal traits that are antecedent to task-specific self-efficacy, a proximal trait, which in turn directly affects sales performance.

FINDINGS

Self-efficacy significantly influences objective sales performance ($t = 2.86$, $p < 0.01$) and the relationships between conscientiousness and self-efficacy and between extraversion and self-efficacy are statistically significant (conscientiousness $t = 3.46$, $p < 0.01$; extraversion $t = 2.76$, $p < 0.01$), which provides initial support for their theory.

Descriptive Statistics and Correlations

Variables	Mean	Standard Deviation	1	2	3
1. Conscientiousness	2.93	0.48	I		
2. Extraversion	2.77	0.53	0.541*	I	
3. Self-Efficacy	3.01	0.51	0.605*	0.481*	I
4. Objective Sales Performance	6.11	0.32	0.111*	0.194*	0.117*

Notes: n=980. *Cronbach's alpha for multi-items is shown on the matrix diagonal.*
** Correlations are significant at the 0.01 level (two-tailed).*

For more information, go to:
https://www.researchgate.net/publication/261626867_Individual_Differences_and_Sales_Performance_A_Distal-Proximal_Mediation_Model_of_Self-Efficacy_Conscientiousness_and_Extraversion

EXHIBIT B - Business Owners Preparedness Scale (BOP)

As an insurance and financial services territory manager, from June 1998 to October 2013, my office meticulously tracked almost 2,000 interviewees applying for the opportunity to become insurance agency owners. With this data, I set out to prove my hypothesis that the entry-level requirements set by the organization did not accurately predict a business owner's success. My correlational design study evaluated 12 independent variables to determine what effect, if any, each would have when someone transitioned into business ownership. This research study and the resulting **Small Business Preparedness Scale** became my capstone project while completing a master's in Industrial-Organizational Psychology through Harvard University.

The Results

After completing my initial data analysis, I asked past interviewees to participate in this pilot research study. In addition to updating their business ownership status, participants were asked to complete an exploratory 25-item BOP Scale, which included eleven (11) questions that measure statistically proven trait-level grit and support for starting a new business (see Table 1). Of the 1,854 applicants interviewed, 159 responded (71% men, 29% women), which generated some interesting results.

Table 1. *Common Factor Analysis of Business Owner Preparedness Scale*

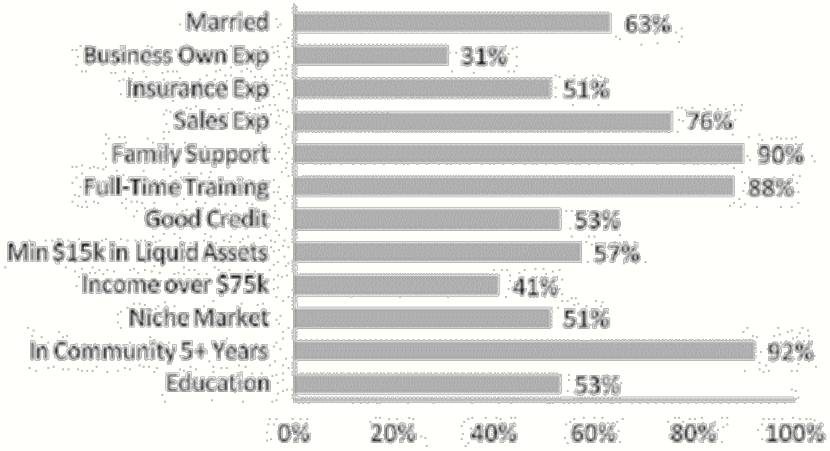
2-Factor and BOP Scale Item	*M*	*SD*	*α*
Grit			
I am diligent. I never give up.	4.48	0.75	.54
I am a competitive person.	4.18	1.05	.82
I finish whatever I begin.	4.2	0.72	.51
I routinely overcome setbacks to conquer an important challenge.	3.44	0.54	.47
I often stay late to get the job done.	4.3	0.85	.72
Social Support			
I am someone that friends come to when they are in need of help.	4.2	0.85	.82
My significant other is excited about my decision to own a business	3.72	2.68	.74
I can count on my friends when things go wrong.	2.96	0.85	.51
There is a special person who is around when I am in need.	3.04	0.8	.54
I often seek advice from others who have been successful.	3.46	0.83	.62
The closest people in my life believe this is NOT the right career for me.*	3.32	2.72	.92

*Item was reverse scored.

It wasn't the company's pre-hire assessment (LIMRA Career Profile), educational attainment, financial stability, or any other factors the company institutionalized in its hiring practices that accurately predicted success. Instead, what I found to be the most relevant traits and experiences that would predict a new business owner's success were 1) the length of time they had lived in their community, 2) support from family and friends, and 3) they committed to the training program early on rather than delaying the career transition.

There were two additional factors worth mentioning. First of all, when women enter the world of the self-employed and are not supported by their significant other, 94% fail (18 of 19). This is not to say that women need to be married to a successful partner to be successful. On average, single women did significantly better than their counterparts who were not in a committed relationship. Through personal observation, it was noted that when women struggle to gain partner support, particularly those with children at home, they put family first and their dreams of self-employment on hold. Whereas with men, when they are not supported at home, several in our study retained their position but left their partner.

Another interesting finding was that educational attainment showed an inverse relationship with candidate success. In other words, the higher education one received, the lower rate of success the candidate had in business ownership. Perhaps the high level of success of our non-degreed candidates can be attributed to the requirement for an exception request, and only the best were submitted. Others evaluating our results believe success in a sales-based career depends more on grit and perseverance than a college education. The point is if you are not tracking the traits and characteristics of people you've hired, you could be making costly hiring decisions without even knowing it.



Legend (0 = no, 1 = yes)	
G	Gender (0 female, 1 male)
R	Relationship (0 single, 1 married)
ES	Engagement Score
SS	Social Support Score
LS	LIMRA Score
SBS	Small Business Score
A	4-year Degree
B	Bilingual
C	5-year community
D	Identified Niche
E	Successful Prior Occupation
F	Money to Invest
G	Good Credit
H	Full Time Train
I	Partner Support
J	Sales Experience
K	Insurance Experience
L	Business Own Experience
M	Success in Business
N	Race (1,2,3,4,5,6) (N,A,B,H,PI,W)

Small Business Preparedness Pilot Interview Questionnaire

Background Information

1. How long have you lived in your community?
2. Are you bilingual?
3. Highest level of education.
4. Which positions are of interest to you?

Work History

5. How many companies have you worked for over the past 10-years?
6. How long at your current job?
7. Job type.
8. Concerning my current position (Linkert Scale on satisfaction).
9. Provide more details about current position and why leaving.

Experience History and Belief in Insurance

10. How long have you considered owning an insurance agency?
11. Four questions about insurance experience.
12. Four questions about marketing experience.
13. Four questions about business owner experience.
14. If accepted to enter the agent mentor or training program, are you prepared to train full-time or part-time?
15. Do you currently use an insurance agent or purchase through a direct channel?
16. Six questions about type of insurance purchased.
17. Concerning insurance agents today (drop down menu on belief in position).
18. What do you like about your current insurance agent?
19. What do you wish your current (or past) insurance agent would do better?
20. If approved for the position, how will you be different from other agency owners?

Personality Scale and Interests

21. I am a highly motivated self-starter.
22. I have a strong desire to lead other people.
23. People describe me as a planner who does not like to take risks.
24. I am detailed oriented.
25. I have a clear picture of where I want to be professionally in 5-years.
26. I find uncertainty difficult to deal with.
27. I prefer to work with a set salary as opposed to commission only.
28. I excel at everything I do.
29. Important people in my life support my career choices.
30. I love to help other people.
31. Small details are very important and cannot be overlooked.
32. To become a top sales professional, one must occasionally bend the rules to get things done.
33. Most would say I am a well-balanced person.
34. When it comes to conflict resolution, I am effective at helping people solve their differences.
35. I feel confident in my ability to run a highly successful small business.
36. Which books have you read? [honesty question]
37. Which magazines have you subscribed to (ever)? [honesty question]
38. Total number of Facebook friends. [support, marketing, honesty]
39. Total number of LinkedIn connections. [support, marketing, honesty]
40. I have extensive management experience.
41. People often ask me for help or my opinion.
42. I inspire others to achieve their goals.
43. I have extensive sales experience.

44. I have held commission type positions for most of my professional career.
45. I have been recognized and/or awarded for achieving excellence in my professional career.
46. When it comes to sales, I will succeed at any cost.
47. I have a difficult time delegating work because I realize that I can do the job better than someone else.
48. I often work late to get the job done.
49. I use a detailed Daily Task List to prioritize my daily activities.
50. I do my best work when under pressure.
51. I have difficulty facing rejection.
52. Relationship status
53. Age group
54. What does your spouse or significant other think about you entering this business?
55. Since you are considering going into business for yourself, how long could you make it financially without income?
56. Are you going to continue working in your current position while you train for your new career?
57. How much travel does your current job require?
58. Do you utilize a budget for expenses?
59. How organized is your accounting system?
60. When it comes to performance at work, what type of reward system is most motivating to you? [drag and drop options]
61. What is the most important service or offering your company can provide for you as a business owner? [drag and drop options]
62. Additional boxes to include website, business Facebook page and LinkedIn profile URL.
63. Why do you believe you would be successful in this career? [open box]
64. What is your biggest concern about this position? [open box]
65. What questions can we answer for you? [open box]

Business Owners Preparedness Scale

1. I am diligent. I never give up.
2. I am a competitive person.
3. I am concerned with the financial risk that comes with business ownership.
4. I am someone that friends come to when they are in need of help.
5. I often stay late at work to get the job done.
6. My significant other is excited about my decision to own a business.
7. I can count on my friends when things go wrong.
8. There is a special person who is around when I am in need.
9. I often seek advice from others who have been successful.
10. I finish whatever I begin.
11. The closest people in my life are concerned that owning a small business is the right career for me.
12. I routinely overcome setbacks to conquer an important challenge.

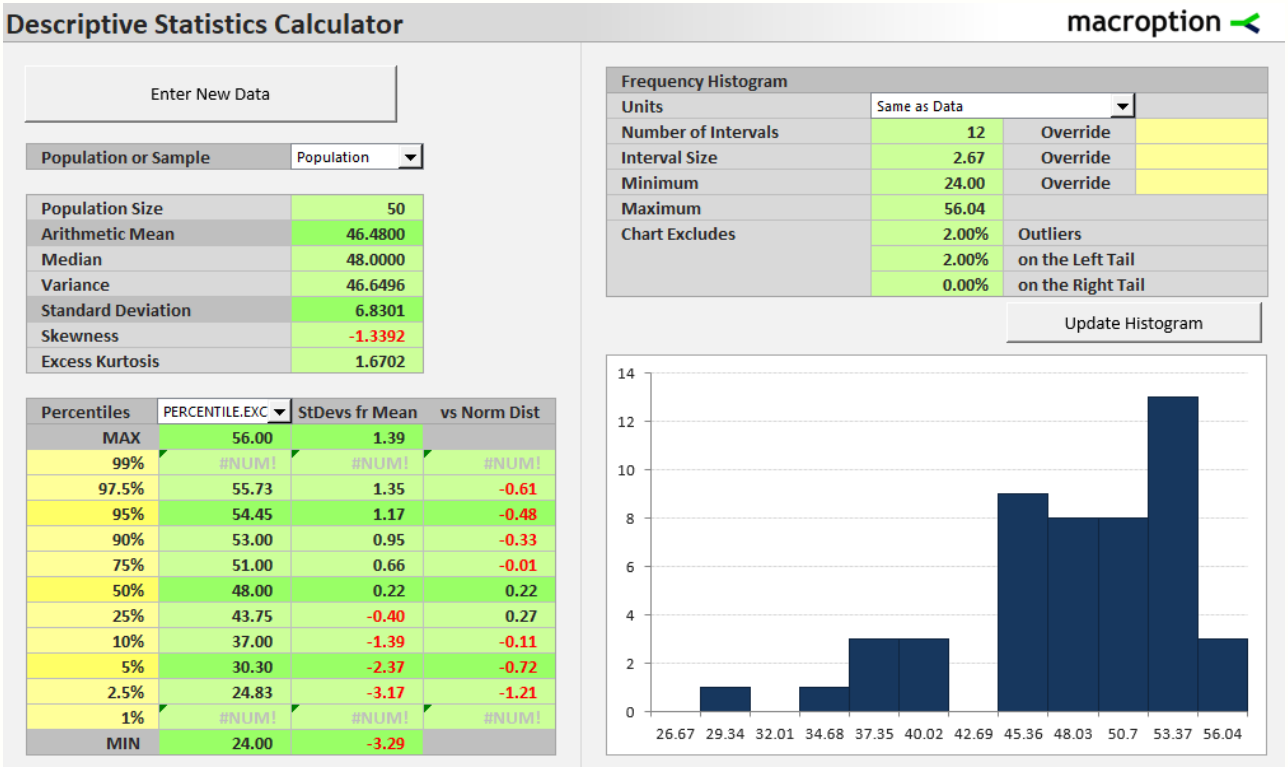


EXHIBIT C – GRIT SCALE

Directions for taking the Grit Scale: Respond to the following 12 items. Be honest. There are no right or wrong answers! Rate each:

1)Very much like me 2)Mostly like me 3)Somewhat like me 4)Not much like me 5)Not like me at all

1. I have overcome setbacks to conquer an important challenge.
2. New ideas and projects sometimes distract me from previous ones.*
3. My interests change from year to year.*
4. Setbacks don't discourage me.
5. I have been obsessed with a certain idea or project for a short time but later lost interest.*
6. I am a hard worker.
7. I often set a goal but later choose to pursue a different one.*
8. I have difficulty maintaining my focus on projects that take more than a few months to complete.*
9. I finish whatever I begin.
10. I have achieved a goal that took years of work.
11. I become interested in new pursuits every few months.*
12. I am diligent.

SCORING:

- For questions 1, 4, 6, 9, 10 and 12 assign the following points:
  5 = Very much like me 4 = Mostly like me 3 = Somewhat like me 2 = Not much like me 1 = Not like me at all
- For questions 2, 3, 5, 7, 8 and 11 assign the following points:
  1 = Very much like me 2 = Mostly like me 3 = Somewhat like me 4 = Not much like me 5 = Not like me at all

Add up all the points and divide by 12. The maximum score on this scale is 5 (extremely gritty), and the lowest scale on this scale is 1 (not at all gritty).

Duckworth, A.L., Peterson, C., Matthews, M.D., & Kelly, D.R. (2007). Grit: Perseverance and passion for long-term goals. Journal of Personality and Social Psychology, 9, 1087-1101.

EXHIBIT D: Definitions

Categorical variable - any variable made up of categories of objects/entities. For example, the university you attend is an excellent example of a categorical variable: students who attend Harvard University are not likely to be enrolled simultaneously at The University of Texas; therefore, students fall into distinct categories.

Coefficient - a numerical value used to indicate a phenomenon's magnitude or represent the relationship between two or more variables. It is usually expressed as a number and is used in mathematical equations or formulas to represent a particular factor or constant.

Confidence level - the percentage of times you expect to get close to the same estimate if you rerun your experiment or resample the population in a similar fashion.

Confounding variable - is an "extra" variable that you didn't account for. They can ruin an experiment and give you useless results. Confounding variables can suggest there is a correlation when in fact, there isn't. They can even introduce bias. That's why it's important to know what one is and how to avoid getting them into your experiment in the first place.

Correlational research - research studies that aim to provide static pictures of situations and establish the relationship between different variables.

Covariate - an independent variable that can influence the outcome of a given statistical trial, but which is not of direct interest.

Covariance – is a measure of how much two random variables vary together. It's similar to variance, but where variance tells you how a single variable varies, covariance tells you how two variables vary together.

Dependent variable - a variable (often denoted by *y*) whose value depends on that of another. You can think of this variable as an outcome.

Descriptive research design - involves using a range of qualitative and quantitative research methods to collect data that aids in accurately describing a research problem.

Discrete variable – a variable that can only take on certain values (usually whole numbers) on the scale.

Factor - another name for an independent variable or predictor that's typically used when describing experimental designs. However, to add to the confusion, it is also used synonymously with latent variable in factor analysis.

Factor Analysis - a multivariate technique for identifying whether the correlations between a set of observed variables stem from their relationship to one or more latent variables in the data, each of which takes the form of a linear model.

Frequency distribution - a graph plotting values of observations on the horizontal axis and the frequency with which each value occurs in the data set on the vertical axis (a.k.a. histogram).

Hypothesis - a supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation.

Independent factorial design - an experimental design incorporating two or more predictors (or independent variables), all of which have been manipulated using different participants (or whatever entities are being tested). Independent t-test: a test using the t-statistic that establishes whether two means collected from independent samples differ significantly.

Independent variable - a variable (often denoted by *x*) whose variation does not depend on that of another.

Intercept coefficient - the simple linear regression model is essentially a linear equation of the form y = c + b*x;

where *y* is the dependent variable (outcome), *x* is the independent variable (predictor), *b* is the slope of the line; also known as regression coefficient and *c* is the intercept; labeled as constant.

Latent variables - (from Latin: present participle of lateo, "lie hidden") are variables that can only be inferred indirectly through a mathematical model from other observable variables that can be directly observed or measured.

Linear Model - describes a continuous response variable as a function of one or more predictor variables. They can help you understand and predict the behavior of complex systems or analyze experimental, financial, and biological data. Linear regression is a statistical method used to create a linear model.

Linear Regression - is commonly used for predictive analysis and modeling. For example, it can be used to quantify the relative impacts that education, experience, and training (the predictor variables) have on success (the outcome variable).

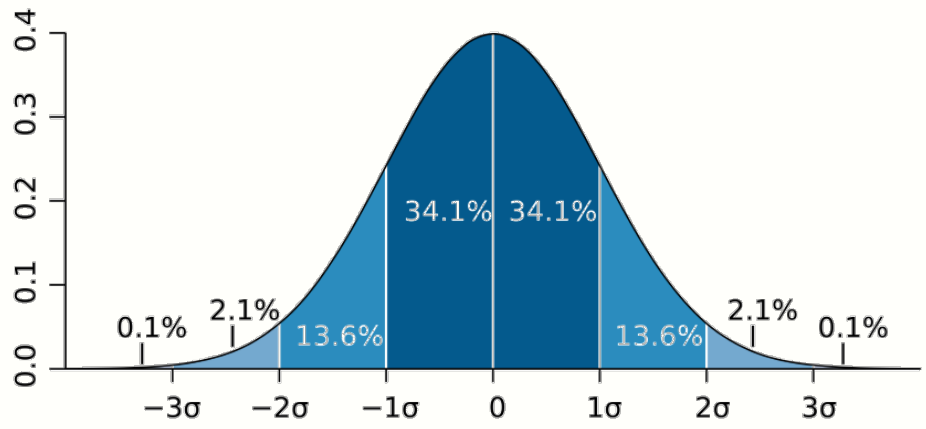
Mean - (aka the arithmetic mean, different from the geometric Mean) of a dataset is the sum of all values divided by the total number of values. It's the most commonly used measure of central tendency and is often referred to as the "average."

Median - the middle number in a sequence of numbers. To find the median, organize each number in order by size; the number in the middle is the median.

Mode - refers to a number in a set of numbers that appears the most often.

Multivariate - means 'many variables' and is usually used when referring to analyzes in which there is more than one outcome variable (MANOVA, principal component analysis, etc.).

Normal distribution - also known as the Gaussian distribution, is a probability distribution that is symmetric about the Mean, showing that data near the Mean are more frequent in occurrence than data far from the Mean. In graphical form, the normal distribution appears as a "bell curve".



A plot of normal distribution (or bell-shaped curve) where each band has a width of 1 standard deviation – See also: 68–95–99.7 rule.

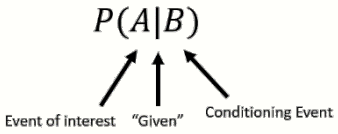
Null Hypothesis - (in a statistical test) the hypothesis that there is no significant difference between specified populations, any observed difference being due to sampling or experimental error.

Outcome variable - a variable thought to change as a function of changes in a predictor variable. For the sake of

an easy life this term could be synonymous with 'dependent variable.'

Predictor variable - a variable thought to predict an outcome variable. This term is basically another way of saying 'independent variable.' (Although some people won't like me saying that, I think life would be easier if we talked only about predictors and outcomes.)

Probability - deals with predicting the likelihood of future events, while statistics involves the analysis of the frequency of past events. Probability is primarily a theoretical branch of mathematics that studies the consequences of mathematical definitions.



Significance Testing - a statistical method used to assess the likelihood that results of an experiment or study are due to a real effect rather than random chance. It is used to determine whether the observed data is significantly different from what is expected on the basis of chance alone. Significance testing involves calculating a probability value, known as a p-value. If this value is below a predetermined threshold, then the results are deemed statistically significant, and it is concluded that the observed difference is unlikely to be due to chance.

Standard deviation - a measure of the amount of variation or dispersion of a set of values. A low standard deviation indicates that the values tend to be close to the Mean (also called the expected value) of the set, while a high standard deviation indicates that the values are spread out over a wider range.

Standard Deviation of Sample Population

$$s = \sqrt{\frac{(x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \cdots + (x_n - \bar{x})^2}{n - 1}}$$

Standard error - the standard deviation of the sampling distribution of a statistic. For a given statistic (e.g., the Mean) it tells us how much variability there is in this statistic across samples from the same population. Large values, therefore, indicate that a statistic from a given sample may not be an accurate reflection of the population from which the sample came.

Statistical bias - a form of systematic error that influences a study's results. It can be introduced to a study through a variety of sources, such as poorly designed experiments, poorly chosen sampling methods, and data analysis techniques. Bias can influence the results of a study in ways that are not immediately obvious and can lead to incorrect conclusions and inaccurate results. In order to reduce or eliminate bias, researchers must take steps to ensure their study is designed, conducted, and analyzed in a way that minimizes the chances of bias influencing their results.

Statistical Significance - a determination that a relationship between two or more variables is caused by something other than chance. In statistics, for your research to be statistically significant, a mathematical computation called a *p-value* (probability that the null hypothesis is correct) determines how likely, given the same set of variables, the results of an experiment will have a similar outcome.

Variance - an estimate of average variability (spread) of a set of data. It is the sum of squares divided by the number of values on which the sum of squares is based minus 1.

$$s^2 = \frac{(x_1-\bar{x})^2+(x_2-\bar{x})^2+\cdots+(x_n-\bar{x})^2}{n-1}$$

References

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. Journal of Personality and Social Psychology, 92(6), 1087-1101. https://doi.org/10.1037/0022-3514.92.6.1087.

