LUMIVERO

Research and Technical Writing Institute

Presented by NVivo, Citavi & XLSTAT

Day 4: Reporting Statistical Results: Writing Considerations

Speaker

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Reporting Statistical Results: Research Writing Considerations

Kirstie Eastwood

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About Me

- Statistical consultant, educator, researcher
- Supported 500+ researchers over the last 9 years
- 9 years of lecturing statistics and quantitative methodology
- Quantitative research methodology course developer

"Education is the most powerful weapon which you can use to change the world" – Nelson Mandela

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About Dissertation by Design

- Full-service academic coaching firm – from research proposal development to final editing and formatting
- Dontate a portion of our revenue to a scholarship fund to support single mothers and children in developing countries
- Qualitative methodologists, statisticians, professional editors
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AGENDA

01. Transitioning from Data Analysis to Writing

02. Structuring the Results Section

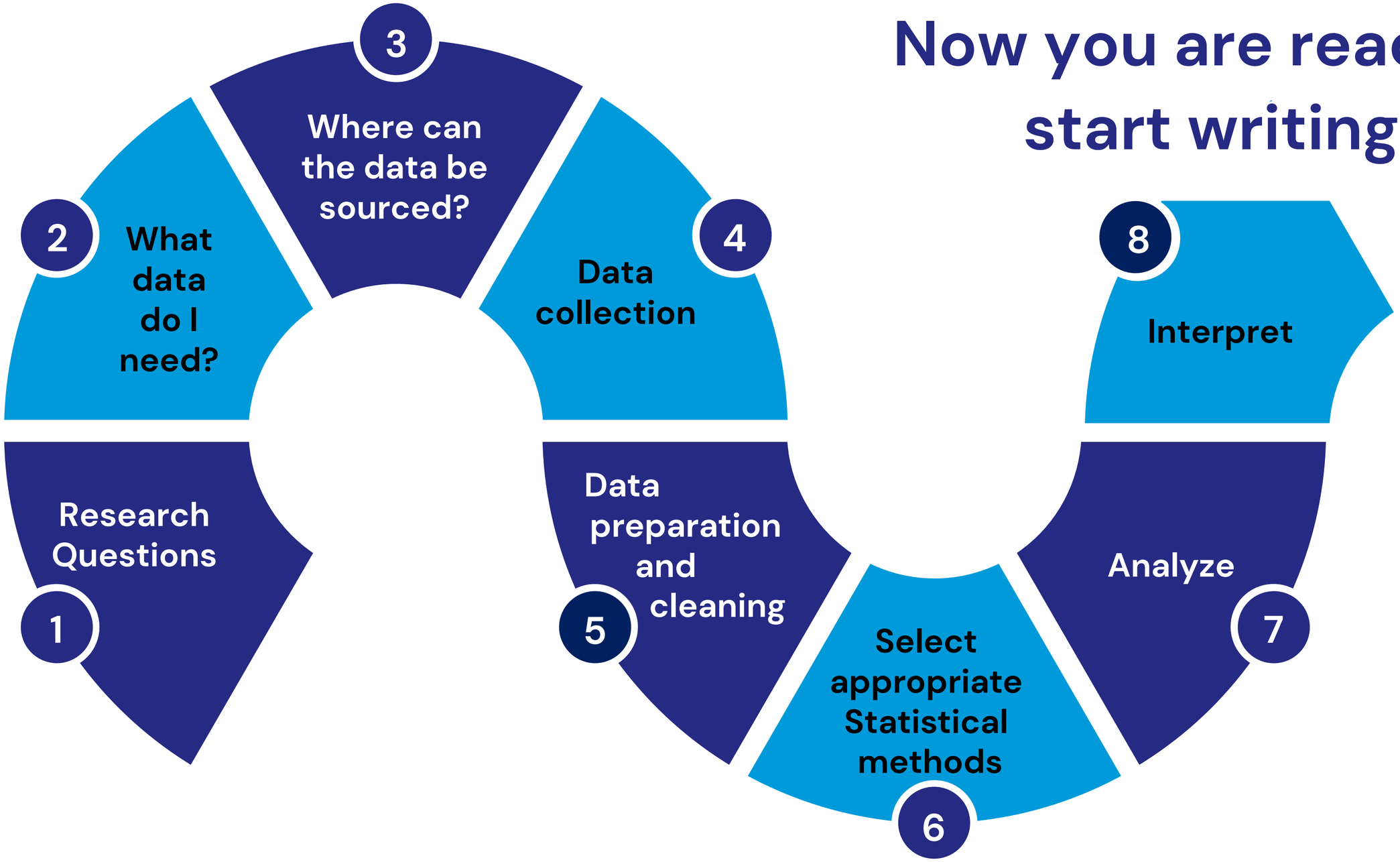
03. Reporting Participant Demographics

04. Connecting Results to Research Questions

05. Presenting Results with Charts and Tables

06. Challenges and Tips

Now you are ready to start writing!



1. TRANSITIONING FROM DATA ANALYSIS TO WRITING

"Statistics is the language of science."

– Ronald A. Fisher, British statistician (1890–1962)

Poll

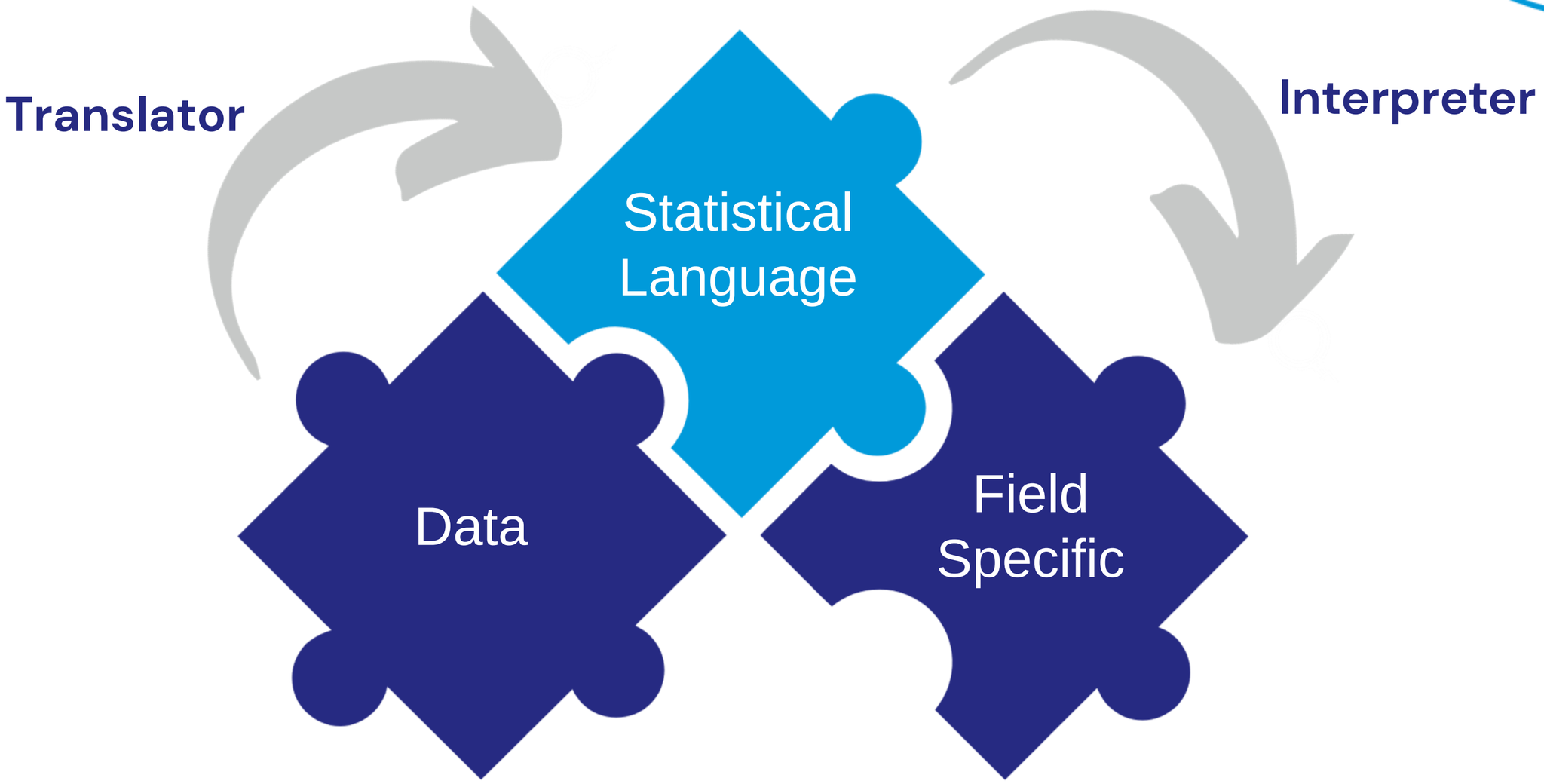
How would you rate your fluency in the language of statistics?

A. I speak statistics fluently
B. I speak conversational statistics/enough to get by
C. I speak broken statistics
D. Definitely in need of a translator

Statistics: Embracing the Linguistic Adventure of Data

- Language that employs symbols, numbers, and formulas to convey information
- Understanding statistics can be challenging if one is not fluent in it
- Analyzing data involves translating it into statistical language
- Translating data into statistical language is crucial for effective communication of findings
- Once data is translated into statistical language, it can be further translated into a language that the intended audience can comprehend

Statistics: Embracing the Linguistic Adventure of Data



XLstat: A Tool For Transitioning To Writing

- Results can be exported into Microsoft Word or Powerpoint
- Provides some written interpretation to aid in translation

Interpretation (Job Satisfaction):
Given the R2, 7% of the variability of the dependent variable Job Satisfaction is explained by the 2 explanatory variables.
Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring.

Test interpretation:
H0: The difference between the means is equal to 0.
Ha: The difference between the means is different from 0.
As the computed p-value is greater than the significance level alpha=0,05, one cannot reject the null hypothesis H0.

Translation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	**Respondent**	**Teacher**	**Age**	**Years teaching experience**	**JS1**	**JS2**	**JS3**	**JS4**	**JS5**	**JS6**	**JS7**	**JS8**	**JS9**	**JS10**	**JS11**	**JS12**	**TSE1**
2	1	Primary	20-30 years old	Less than 5 years	3	3	2	3	2	3	3	2	1	1	2	3	3
3	2	Primary	20-30 years old	Less than 5 years	2	2	3	3	2	3	3	2	1	2	2	2	2
4	3	Secondary	20-30 years old	Student Teacher	4	4	5	4	5	4	5	5	5	4	3	5	4
5	4	Secondary	31-40 years old	More than 15 years	5	4	5	4	4	5	4	5	5	5	5	5	5
6	6	Secondary	20-30 years old	Student Teacher	4	4	5	5	4	4	4	4	4	5	3	5	4
7	7	Secondary	20-30 years old	Between 5 and 15 Years	3	2	1	3	3	2	1	1	1	2	3	2	3
8	8	Secondary	20-30 years old	Less than 5 years	3	3	3	2	2	1	1	2	1	2	3	1	3
9	9	Secondary	20-30 years old	Less than 5 years	3	1	1	3	1	1	2	3	2	2	3	1	3

- The regression model was significant (F(2,374) = 13.910, p < 0.001), indicating a relationship between the predictor variables and job satisfaction.
- Age had a significant positive relationship with job satisfaction (t = 5.114, p < 0.001), While the level "Primary" of the variable "Teacher" did not reach statistical significance (t = -1.649, p = 0.100), there was a marginal indication that primary teachers may have slightly lower job satisfaction compared to secondary teachers. These findings provide insights into the factors influencing job satisfaction among the participants.

Analysis of variance (Job Satisfaction):

Source	DF	Sum of squares	Mean squares	F	Pr > F	p-values significati on codes
Model	2,000	39,685	19,842	13,910	**<0,0001**	***
Error	374,000	533,506	1,426			
Corrected Total	376,000	573,191				

Computed against model Y=Mean(Y)

*Signification codes: 0 < *** < 0.001 < ** < 0.01 < * < 0.05 < . < 0.1 < ° < 1*

Model parameters (Job Satisfaction):

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)	p-values significati on codes
Intercept	2,385	0,176	13,560	**<0,0001**	2,039	2,731	***
Age	0,024	0,005	5,114	**<0,0001**	0,015	0,033	***
Teacher-Primary	-0,212	0,129	-1,649	0,100	-0,465	0,041	.
Teacher-Secondary	0,000	0,000					

*Signification codes: 0 < *** < 0.001 < ** < 0.01 < * < 0.05 < . < 0.1 < ° < 1*

2. STRUCTURING THE RESULTS SECTION

Plan for Writing Early in the Data Analysis Process

- Consider your audience
- Choose an appropriate writing style
- Create an outline
- Use a template

Something to think about…

How, though, to order the subheadings? Both empirical and qualitative studies generally produce a far greater body of analysed data than will appear in the final draft of the results section or sub-sections. It is often difficult, therefore, when initially confronting the data to know where to start and easy to succumb to the **temptation of trying to include as much as possible**. The consequence of doing so in both qualitative and empirical theses is **loss of direction**. This is usually indicated in the latter by a long and confused sequence of tables and figures. **What is needed, therefore, is sufficient data to provide coherence to the description provided but not so much as to disturb its clarity**. Both to achieve this balance and to provide logic to the manner in which the data are ordered, **a clear idea of the narrative to be presented should be developed**. Only in this way will the examiners know where they are being led.

White, B. (2011). Mapping your thesis: The comprehensive manual of theory and techniques for masters and doctoral students. Camberwell, Australia: ACER

Once Upon a Study

Writing the results of a quantitative study is akin to telling a story. Just like all good stories, it follows a structure and should take the reader on a journey.

Set the stage
(Introduction)

Characters
(Sample characteristics)

Rising action
(Preliminary analysis)

Climax
(Results)

Resolution
(Conclusion)

Set the Stage (Introduction)

Once Upon a Time

- Establishes the context of the story
- Describes the time, place, and circumstances Sets the foundation for the narrative
- Immerses the audience in the story's world
- Creates a sense of atmosphere and anticipation

Once Upon a Study

- Concisely presents the study's purpose, methodology, and research focus
- Allows readers to grasp the context of the forthcoming results
- Establishes a foundation for understanding
- Generates anticipation for the upcoming findings

Characters (Sample Characteristics)

Once Upon a Time

- Key drivers of the story
- Possess personalities, motivations, and conflicts
- Protagonists, antagonists, and supporting characters fulfill specific roles
- Facilitate emotional connection to the narrative
- Propel the plot through actions and interactions

Once Upon a Study

- ‘Characters' of the research
- Describes population/sample characteristics and demographics
- Provides context for interpreting the study's findings
- Allows readers to visualize and understand the participant group
- Defines to whom the study findings apply
- Clarity on the generalizability of the findings

Rising Action (Descriptive Statistics & Preliminary Analysis)

Once Upon a Time

- Builds up to the climax of the story
- Choices made by main characters and events that challenge their goals
- Typically, the longest in the story
- Creates anticipation
- Many significant events and developments occur during this phase

Once Upon a Study

Preliminary analysis that builds up to the results by:

- describing study variables,
- assessing reliability, and
- assumption testing

Often the longest part of the report

Climax (Results)

Once Upon a Time

- Pivotal moment, the peak of tension
- Most intense, suspenseful, or dramatic point in the narrative
- Involves a decisive action, revelation, or turning point

Once Upon a Study

- Fulfils the study's objectives
- Unveils and present the key findings that directly address the research questions or hypotheses
- Moment of revelation and significance, where the outcomes of the study are discovered by the reader

Resolution (Conclusion)

Once Upon a Time

- Loose ends are tied up and conflicts are resolved
- Brings closure and offers the outcome or final state of the characters
- Audience processes and reflects on the events and messages of the story

Once Upon a Study

- Summarizes the essential data, analysis, and their relevance to the study
- Synthesizes various components of the study's analysis and highlights their significance

Example

Setting the Stage:
The study focuses on examining the relationship between workplace stress and mental health outcomes among employees in the hospitality industry during the reopening phase after COVID-19 lockdowns. The hospitality industry has been greatly impacted by the pandemic, with employees facing unique challenges as they navigate changes and uncertainties. Understanding the effects of workplace stress on mental health in this context is essential for promoting employee well-being and ensuring a successful recovery. By investigating this relationship, the study aims to provide valuable insights and recommendations to support the development of targeted interventions and policies that enhance the mental health of hospitality workers.

Characters:
The sample under investigation consisted of 252 individuals who were employees in the hospitality industry during the reopening phase after COVID-19 lockdowns. Of the participants, 61.9% identified as female and 38.1% as male. These individuals were selected from a larger sample as part of an ongoing research project focused on understanding the job-related stress and mental health of hospitality workers during times of recovery. The ages of the employees ranged from 21 to 55 years, with the majority falling within the 25 to 35 age range. The sample was diverse, including participants from various ethnic backgrounds, with 45.2% identifying as White, 31.3% as Asian, and 23.5% as other ethnicities. In terms of employment, the majority of employees reported working full-time (56.7%), while 28.6% were part-time employees and 14.7% were self-employed or contractors. Approximately two-thirds of the participants reported having at least a bachelor's degree (64.3%).

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Example

Rising Action:
The reliability of the study measures was assessed using Cronbach's alpha coefficient. All values exceeded the recommended threshold of 0.7, ensuring the internal consistency of the scales used in the study.

The core measures, including scores from the Workplace Stress Scale (WSS), Resilience Scale (RS), and the Occupational Well-Being Scale (OWS) were all screened for distributional assumptions and outliers. All distributions showed acceptable skewness/kurtosis values, indicating normality (see Table X). No outliers were detected in any of the scales.

To identify potential covariates for subsequent analyses, bivariate correlations were conducted to examine the associations between several demographic variables, including Gender, Age, Ethnicity, Education Level, and Employment Status, with the outcomes of interest. The results revealed gender differences were observed for occupational well-being, with females demonstrating significantly higher levels of well-being compared to males ($p < .05$). Therefore, Gender was included as a covariate in the subsequent analyses to account for the potential influence on the outcomes of interest.

A series of three hierarchical regression models were run where each of the mental health measures (occupational well-being) served as outcomes. Before interpreting the results of the regression models, several assumptions were checked, including outliers, linearity, homoscedasticity, and normality.

Example

Climax:
The results of the study revealed that workplace stress significantly contributed to the models predicting anxiety and depression among hospitality employees. For anxiety, the inclusion of workplace stress (WSS scores) increased the variance explained by 38.5%, with a significant R2 change of .385, $F(1, 244) = 171.34$, $p < .001$. Similarly, workplace stress made a significant contribution to the model predicting depression. The addition of workplace stress increased the variance explained by 34.5% for depression (R2 change = .345, $F(1, 244) = 143.03$, $p < .001$). These findings provide strong support for the hypothesis that higher levels of workplace stress are associated with increased psychological distress among hospitality employees.

Resolution:
In summary, the study findings indicate that workplace stress plays a significant role in the mental well-being of hospitality workers during the reopening phase after COVID-19 lockdowns. The results demonstrate that higher levels of workplace stress are linked to increased anxiety, depression, and anger among employees. These findings highlight the importance of addressing workplace stress and implementing strategies to promote employee well-being in the hospitality industry. By understanding the impact of workplace stress on mental health, organizations can develop targeted interventions and support systems to create a healthier and more supportive work environment for their employees.

3. REPORTING PARTICIPANT DEMOGRAPHICS

Introducing the Characters

Introducing the Characters

- Provides context for the study findings
- Allows for comparisons between different groups of participants
- Helps identify potential biases in the study sample
- Helps ensure that the study findings are generalizable to a wider population

Different Demographic Variables and Their Relevance

The type of study: Some demographic variables are more relevant for certain types of studies than others.

The research questions: The research questions being asked will also determine which demographic variables are relevant.

The reporting guidelines: The reporting guidelines for the particular field of study may also specify which demographic variables should be reported.

Example

The study consisted of 377 participants who were full-time teachers in USA schools and examined whether teachers’ teaching efficacy, and self-esteem relate to their job satisfaction. The following research questions were put forward based on this purpose:

1. Is there a correlation between teachers' **efficacy** and their job satisfaction among full-time teachers in USA schools?
2. Is there a correlation between teachers' **self-esteem** and their job satisfaction among full-time teachers in USA schools?
3. Are there differences in teachers' efficacy, self-esteem, and job satisfaction between primary and secondary school teachers in USA schools?

How To Report Participant Demographics Using Xlstat Data Reports

XLSTAT 2023.1.3.1407 - Descriptive statistics - Start time: 07/06/2023 at 12:15:20 / End time: 07/06

Qualitative data: Workbook = Clean Data Set 8 October 2022 with comp scores.xlsm / Sheet = Clear

Descriptive statistics (Qualitative data)

Descriptive statistics (Qualitative data):

Variable\Statistic	Categories
Teacher	Primary
	Secondary
Age	20-30 years old
	31-40 years old
	41-50 years old
	51-60 years old
	61+ years old
Years teaching experience	Between 5 and 15 Years
	Less than 5 years
	More than 15 years
	Student Teacher

Descriptive statistics (Qualitative data)

Variable\Statistic	Categories	Frequency per category	Rel. frequency per category (%)	Lower bound on frequencies (95%)	Upper bound on frequencies (95%)	Proportion per category	Lower bound on proportions (95%)	Upper bound on proportions (95%)
Teacher	Primary	135,000	35,809	30,969	40,649	0,358	0,310	0,406
	Secondary	242,000	64,191	59,351	69,031	0,642	0,594	0,690
Age	20-30 years old	208,000	55,172	50,152	60,192	0,552	0,502	0,602
	31-40 years old	46,000	12,202	8,898	15,506	0,122	0,089	0,155
	41-50 years old	75,000	19,894	15,864	23,924	0,199	0,159	0,239
	51-60 years old	21,000	5,570	3,255	7,885	0,056	0,033	0,079
	61+ years old	27,000	7,162	4,559	9,765	0,072	0,046	0,098
Years teaching experience	Between 5 and 15 Years	98,000	25,995	21,567	30,422	0,260	0,216	0,304
	Less than 5 years	98,000	25,995	21,567	30,422	0,260	0,216	0,304
	More than 15 years	90,000	23,873	19,569	28,176	0,239	0,196	0,282
	Student Teacher	91,000	24,138	19,818	28,457	0,241	0,198	0,285

Figure: Relative frequency (Teacher)

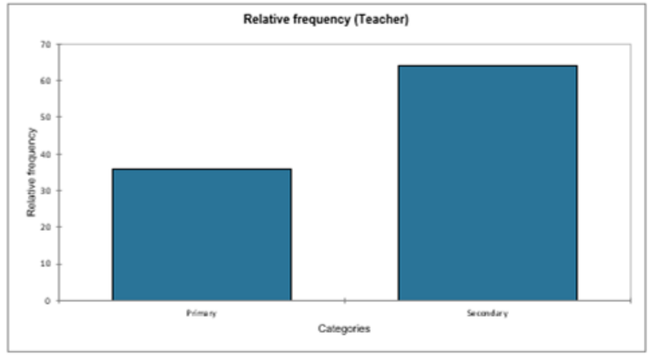


Figure: Relative frequency (Age)

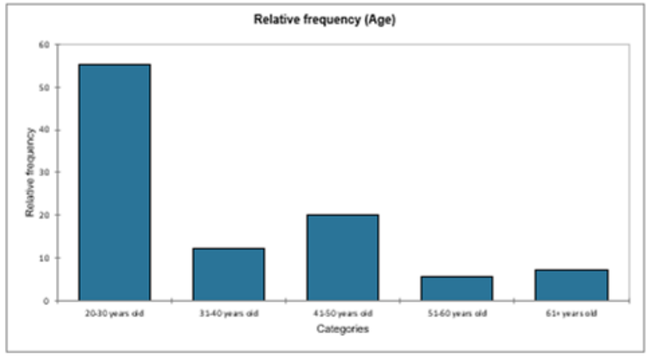
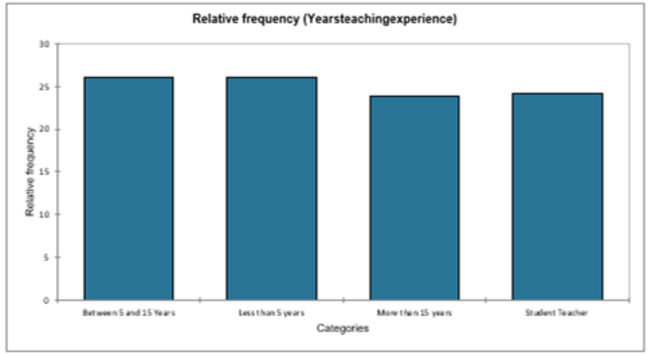


Figure: Relative frequency (Yearsteachingexperience)



How To Report Participant Demographics Using XlStat Data Reports

Variable\Statistic	Categories	n	%
Teacher	Primary	135	35,81
	Secondary	242	64,19
Age	20-30 years old	208	55,17
	31-40 years old	46	12,20
	41-50 years old	75	19,89
	51-60 years old	21	5,57
	61+ years old	27	7,16
Years teaching experience	Between 5 and 15 Years	98	26.00
	Less than 5 years	98	26.00
	More than 15 years	90	23,87
	Student Teacher	91	24,13

Table X

Demographic Characteristics (N=377)

Variable	*n*	%
Teacher		
Primary	135	35,81
Secondary	242	64,19
Age		
20-30 years old	208	55,17
31-40 years old	46	12,20
41-50 years old	75	19,89
51-60 years old	21	5,57
61+ years old	27	7,16
Years teaching experience		
Between 5 and 15 Years	98	26.00
Less than 5 years	98	26.00
More than 15 years	90	23,87
Student Teacher	91	24,13

Different Demographic Variables and Their Relevance

The demographic characteristics of the participants are presented in Table X. Among the participants, 35.81% were primary school teachers, while 64.19% were secondary school teachers. In terms of age, the largest proportion of participants fell in the 20-30 years old category (55.17%), followed by 31-40 years old (12.20%), 41-50 years old (19.89%), 51-60 years old (5.57%), and 61+ years old (7.16%). When considering years of teaching experience, it is important to note that 26.00% of participants had between 5 and 15 years of experience, another 26.00% had less than 5 years of experience, 23.87% had more than 15 years of experience, and 24.13% were student teachers.

4. CONNECTING RESULTS TO RESEARCH QUESTIONS

Essential Components

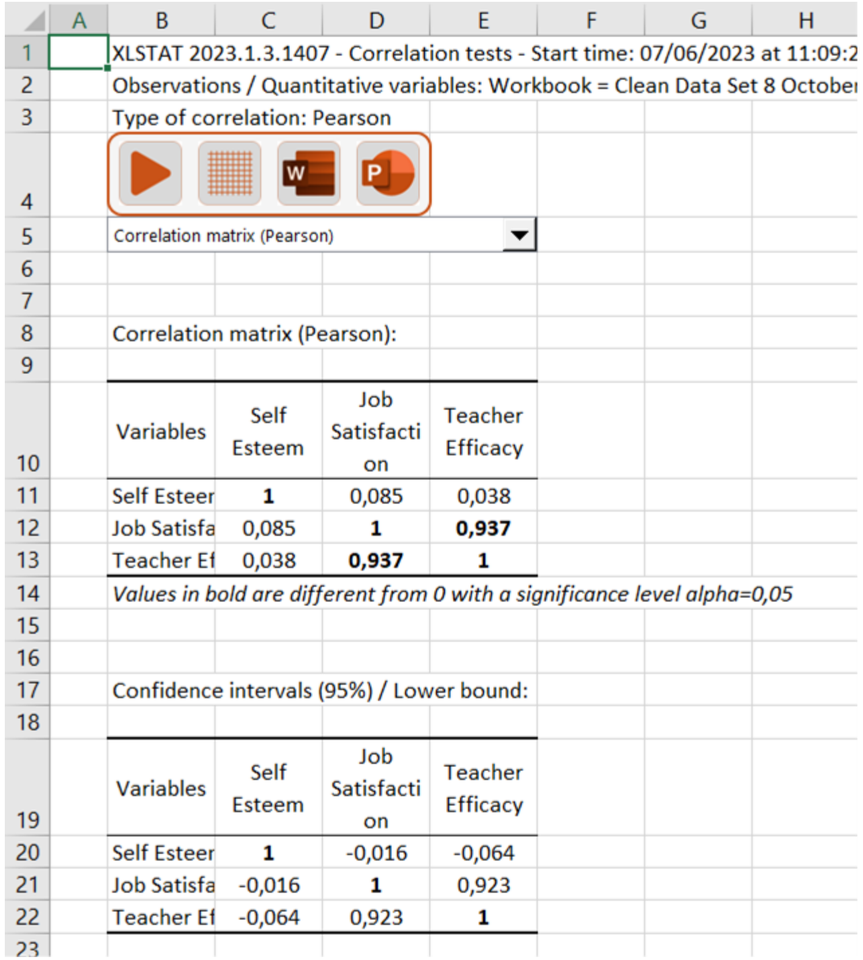
- **Research Question:** Re-orient the reader
- **Statistical Test:** How did you arrive at this result?
- **Results in English:** What was the result?
- **Results in “Statistics/Numbers”:** What is the evidence?
- **Meaning:** So what? What does this mean? What are the implications?

Example

The study consisted of 377 participants who were full-time teachers in USA schools and examined whether teachers’ teaching efficacy, and self-esteem relate to their job satisfaction. The following research questions were put forward based on this purpose:

1. Is there a correlation between teachers' efficacy and their job satisfaction among full-time teachers in USA schools?
2. Is there a correlation between teachers' self-esteem and their job satisfaction among full-time teachers in USA schools?
3. Are there differences in teachers' efficacy, self-esteem, and job satisfaction between primary and secondary school teachers in USA schools?

Example



	A	B	C	D	E	F	G	H
1		XLSTAT 2023.1.3.1407 - Correlation tests - Start time: 07/06/2023 at 11:09:2						
2		Observations / Quantitative variables: Workbook = Clean Data Set 8 Octobe						
3		Type of correlation: Pearson						
4								
5		Correlation matrix (Pearson)						
6								
7								
8		Correlation matrix (Pearson):						
9								
10		Variables	Self Esteem	Job Satisfacti on	Teacher Efficacy			
11		Self Esteer	**1**	0,085	0,038			
12		Job Satisfa	0,085	**1**	**0,937**			
13		Teacher Ef	0,038	**0,937**	**1**			
14		*Values in bold are different from 0 with a significance level alpha=0,05*						
15								
16								
17		Confidence intervals (95%) / Lower bound:						
18								
19		Variables	Self Esteem	Job Satisfacti on	Teacher Efficacy			
20		Self Esteer	**1**	-0,016	-0,064			
21		Job Satisfa	-0,016	**1**	0,923			
22		Teacher Ef	-0,064	0,923	**1**			
23								

Correlation matrix (Pearson)

Variables	Self Esteem	Job Satisfaction	Teacher Efficacy
Self Esteem	**1**	0,085	0,038
Job Satisfaction	0,085	**1**	**0,937**
Teacher Efficacy	0,038	**0,937**	**1**

Values in bold are different from 0 with a significance level alpha=0,05

Confidence intervals (95%) / Lower bound

Variables	Self Esteem	Job Satisfaction	Teacher Efficacy
Self Esteem	**1**	-0,016	-0,064
Job Satisfaction	-0,016	**1**	0,923
Teacher Efficacy	-0,064	0,923	**1**

Example

A Pearson’s correlation analysis was performed to investigate whether there are correlations between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA. The results to showed that there was a significant positive correlation between teaching efficacy and self-esteem ($r = .45$, $p < .001$), and between teaching efficacy and job satisfaction ($r = .52$, $p < .001$). There was also a significant positive correlation between self-esteem and job satisfaction ($r = .63$, $p < .001$).These results suggest that there is a positive relationship between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA. Teachers who feel more effective in their teaching are more likely to have higher self-esteem and job satisfaction. Similarly, teachers who have higher self-esteem are more likely to be satisfied with their jobs.

These findings have implications for both teacher education and professional development. Teacher educators should focus on developing programs that help teachers to develop their teaching efficacy. Professional development programs should also focus on helping teachers to improve their self-esteem. By doing so, we can help to improve the overall well-being of teachers and, ultimately, the quality of education for students.

Example

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Statistical Test:

How did you arrive at the result?

These res job satisfactio ive in their teach have higher self oth teacher ed rams that help teachers to develop their teaching efficacy. Professional development programs should also focus on helping teachers to improve their self-esteem. By doing so, we can help to improve the overall well-being of teachers and, ultimately, the quality of education for students.

Example

A Pearson's correlation analysis was performed **to investigate whether there are correlations between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA**. The results to showed that there was a significant positive correlation between teaching efficacy and self-esteem ($r = .45$, $p < .001$), and between teaching efficacy and job satisfaction ($r = .52$, $p < .001$). There was also a s (r = .63, p < .001). These results sugg esteem, and job satisfaction among Teachers who feel eem and job satisfaction. Simila d with their jobs. These findings hav nt. Teacher educators should focus on developing programs that help teachers to develop their teaching efficacy. Professional development programs should also focus on helping teachers to improve their self-esteem. By doing so, we can help to improve the overall well-being of teachers and, ultimately, the quality of education for students.

Research Question:

Re-orient the reader

Example

A Pearson's correlation analysis was performed to investigate whether there are correlations between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA.

The results to showed that there was a significant positive correlation between teaching efficacy and self-esteem ($r = .45$, $p < .001$), **and between teaching efficacy and job satisfaction** ($r = .52$, $p < .001$). **There was also a significant positive correlation between self-esteem and job satisfaction** ($r = .63$, $p < .001$). **These results suggest that there is a positive relationship between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA.**

Teachers who feel more e ob satisfaction. Similarly, teac eir jobs. These findings have implications ators should focus on developing progr evelopment programs should also focu help to improve the overall well-be

Results in English:

What was the result?

Example

A Pearson's correlation analysis was performed to investigate whether there are correlations between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA. The results to showed that there was a significant positive correlation between teaching efficacy and self-esteem **(r = .45, p < .001),** and between teaching efficacy and job satisfaction **(r = .52, p < .001).** There was also a significant positive correlation between self-esteem and job satisfaction **(r = .63, p < .001).** These results suggest that there is a positive relationship between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA. Teachers who feel more effective in their te ve higher h teache ms that he cus on hel eing of teac

Results in "Statistics/Numbers":

What is the evidence?

Example

Meaning:

So what? What does this mean?

What are the implications?

A Pearson's correlation analys
teaching efficacy, self-esteem
SA.
The results to showed that the
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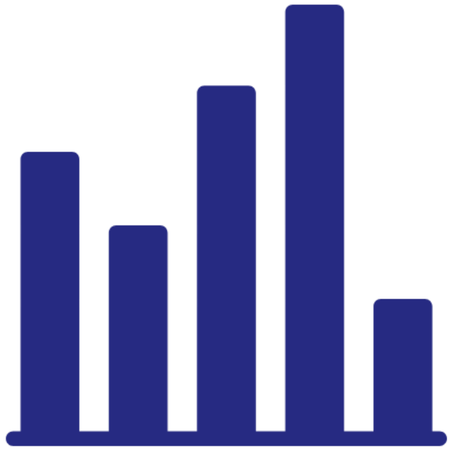
s
also a significant positive correlation between self-esteem and job satisfaction (r = .63, p < .001). These results suggest that there is a positive relationship between teaching efficacy, self-esteem, and job satisfaction among primary and secondary school teachers in the USA. **Teachers who feel more effective in their teaching are more likely to have higher self-esteem and job satisfaction. Similarly, teachers who have higher self-esteem are more likely to be satisfied with their jobs. These findings have implications for both teacher education and professional development. Teacher educators should focus on developing programs that help teachers to develop their teaching efficacy. Professional development programs should also focus on helping teachers to improve their self-esteem. By doing so, we can help to improve the overall well-being of teachers and, ultimately, the quality of education for students.**

5. PRESENTING RESULTS WITH CHARTS AND TABLES

Role Of Charts And Tables In Presenting Results

- Summarize and organize large amounts of data
- Highlights trends and patterns in the data.
- Communicate research findings in a clear, concise and visual way
- Findings more accessible to a wider audience



Introducing And Interpreting Charts And Tables In Research Writing

- Introduce and refer to the chart or table
- Provide a legend for any symbols or abbreviations
- Interpret the chart or table in the text, do not “just repeat” the contents
- Use the chart or table to **support** your claims
- The chart or table should not be the main focus of your writing

Chart or Table?

Chart

- Visually appealing
- Show trends and patterns in data that would be difficult to see in a table
- Displays changes over time
- Compares different data sets

Table

- Present a large amount of data in a concise way
- Better choice when you need to show the exact values of the data, rather than just the general trends

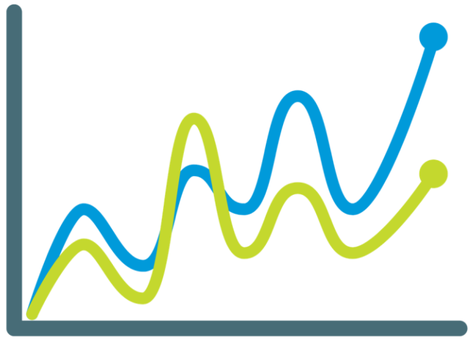
Consider the specific needs of your audience and the type of data you are trying to present.

Identifying Relevant Charts

- **Identify the type of data you have:** Is it categorical, ordinal, interval, or ratio data?
- **Consider the purpose of your chart or table:** Are you trying to summarize, compare, or show relationships between variables?

Categorical

- Bar charts
- Pie charts
- Stacked bar charts



Continous

- Histograms
- Line graphs
- Boxplots
- Scatterplots

6. CHALLENGES & TIPS

Common Challenges And Pitfalls In Reporting Statistical Results

- Misinterpretation of statistical significance
- Failure to report effect sizes
- Failure to consider confounding variables
- Failure to report limitations of the study

Tips And Best Practices For Conveying Findings Clearly

- Use plain language
- Be specific
- Be transparent
- Be cautious
- Avoid “statistically ambiguous” words

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THANK YOU

Questions?

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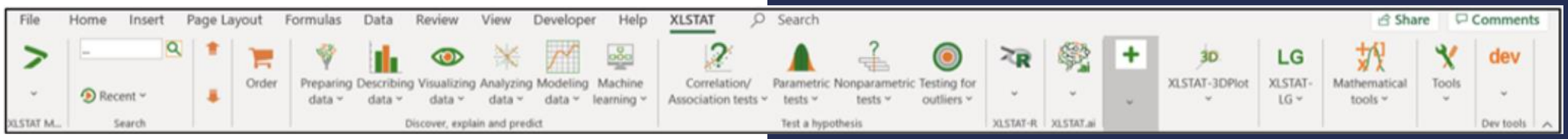

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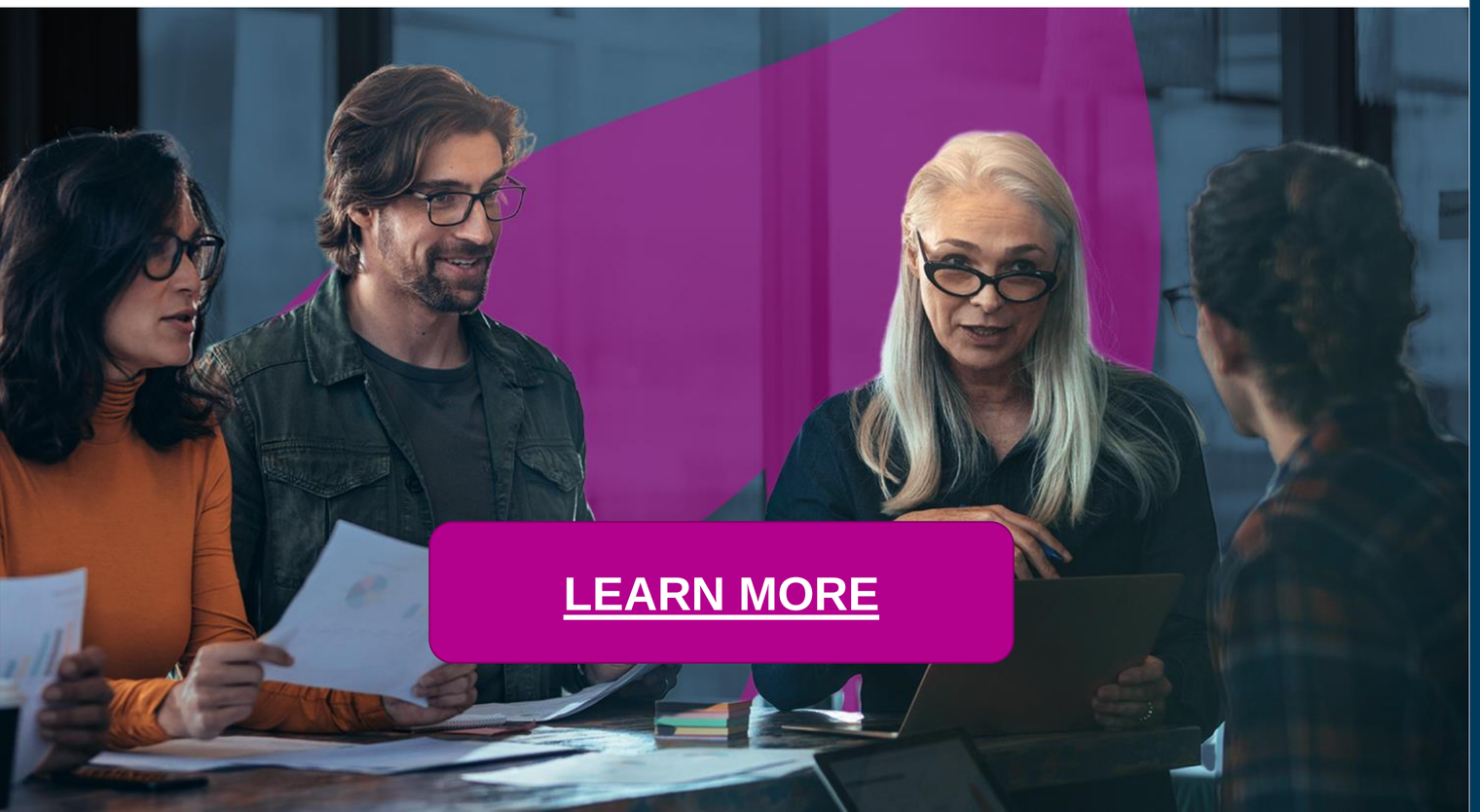

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