

## Applied Data Analysis with SPSS: A Hands-On Training Program

### Course Outline

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Content		
<b>Period 1</b>	<b>2.5h</b>	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>• Basic introduction and definitions</li> <li>• Download and install SPSS</li> <li>• SPSS-related terms</li> <li>• Rules of variable names</li> <li>• Data type</li> <li>• Data file creation</li> </ul> <p><b>Data Transformation and Manipulation</b></p> <ul style="list-style-type: none"> <li>• Import files from several file formats</li> <li>• Missing value analysis</li> <li>• Data re-computing and re-coding</li> <li>• Data manipulation</li> </ul>
<b>Period 2</b>	<b>2.5h</b>	<p><b>Descriptive Statistics and Visualization</b></p> <ul style="list-style-type: none"> <li>• Introduce to our data</li> <li>• Frequency analysis               <ul style="list-style-type: none"> <li>• Central tendency: mean, median, mode.</li> <li>• Variability analysis or Dispersion: range, variance, standard deviation, minimum, maximum.</li> </ul> </li> <li>• Percentile Score</li> <li>• Chart Builder and Legacy Dialogues</li> <li>• Normality test &amp; Outlier detection</li> </ul> <p><b>Correlation</b></p> <ul style="list-style-type: none"> <li>• Definition of correlation</li> <li>• Pearson correlation</li> <li>• Average correlation</li> </ul>
<b>Period 3</b>	<b>2.5h</b>	<p><b>Regression</b></p> <ul style="list-style-type: none"> <li>• Definitions of regression</li> <li>• Types of regression</li> <li>• Simple linear regression</li> <li>• Multiple linear regression</li> <li>• Non-linear regression</li> <li>• Logistic &amp; multinomial logistic regression</li> </ul> <p><b>Statistical Inference &amp; Tests</b></p> <ul style="list-style-type: none"> <li>• Some definitions of related terms.</li> <li>• Distinguish between parametric and non-parametric tests.</li> <li>• Crosstabs analysis</li> </ul>

		<ul style="list-style-type: none"> <li>• Cronbach's alpha</li> <li>• Levene's test, Welch's test</li> </ul> <b>Parametric Test</b> <ul style="list-style-type: none"> <li>• One-sample t-test and z-test</li> <li>• Independent sample t-test</li> <li>• Paired samples t-test</li> <li>• ANOVA</li> </ul> <b>Non-Parametric Test</b> <ul style="list-style-type: none"> <li>• Chi-square</li> <li>• Mann-Whitney U Test, K-S test</li> <li>• Kruskal-Wallis Test</li> </ul>
<b>Period 4</b>	<b>2.5h</b>	<b>Project solve &amp; discussion</b>

