A large, gnarled tree trunk with moss growing on it, set against a misty, foggy forest background. The tree is on the left side of the frame, and the fog fills the rest of the scene, creating a serene and somewhat somber atmosphere.

Beginning today,
treat everyone you meet
as if they were going to be dead by midnight.
Extend to them all the care, kindness,
and understanding you can muster,
and do it with no thought of any reward.

Your life will never be the same again.

A stylized logo of a person with arms raised, colored in red and black.

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inspiring you for a better tomorrow

Selecting the Right Data Analysis Technique

Levels of Measurement

- Nominal
- Ordinal
- Interval
- Ratio
- Discrete
- Continuous

Continuous Variable

- Borgatta and Bohrnstedt state that "the most of central constructs in the social sciences are conceptualized as continuous, and their distributions are such that the application of parametric statistics to their analyses will not result in seriously biased estimates. and if the variables are continuous, they must also by definition, be interval".
- Borgatta, E.F., & Bohrnstedt, G, W. (1981). Level of measurement: Once over again. In G. W. Bohrnstedt & E.F. Borgatta (Eds), Social measurement : Current issues (pp. 23-27). Beverly Hills, CA: Sage.

Key terms

- Concepts
- Construct
- Variable
- Definition
 - Dictionary
 - Operational

Variables

- Independent
- Dependent
- Moderating
- Mediating
- Control

Types of Analysis

- **Parametric**
 - Assumption – Normal Distribution
- **Non-parametric**
 - Distribution free

Number of Variables Involved

- **Univariate**
- **Bivariate**
- **Multivariate**

Handling Blank Responses

- How do we take care of missing responses?
 - If $> 25\%$ missing, throw out the questionnaire
 - Other ways of handling
 - Use the midpoint of the scale
 - Ignore (system missing)
 - Mean of those responding
 - Mean of the respondent
 - Random number

How to Select a Test

Measurement Scale	Two-Sample Tests			<i>k</i> -Sample Tests	
	One-Sample Case	Related Samples	Independent Samples	Related Samples	Independent Samples
Nominal	<ul style="list-style-type: none"> • Binomial • χ^2 one-sample test 	<ul style="list-style-type: none"> • McNemar 	<ul style="list-style-type: none"> • Fisher exact test • χ^2 two-samples test 	<ul style="list-style-type: none"> • Cochran Q 	<ul style="list-style-type: none"> • χ^2 for <i>k</i> samples
Ordinal	<ul style="list-style-type: none"> • Kolmogorov-Smirnov one-sample test • Runs test 	<ul style="list-style-type: none"> • Sign test • Wilcoxon matched-pairs test 	<ul style="list-style-type: none"> • Median test • Mann-Whitney U • Kolmogorov-Smirnov • Wald-Wolfowitz 	<ul style="list-style-type: none"> • Friedman two-way ANOVA 	<ul style="list-style-type: none"> • Median extension • Kruskal-Wallis one-way ANOVA
Interval and Ratio	<ul style="list-style-type: none"> • <i>t</i>-test • Z test 	<ul style="list-style-type: none"> • <i>t</i>-test for paired samples 	<ul style="list-style-type: none"> • <i>t</i>-test • Z test 	<ul style="list-style-type: none"> • Repeated-measures ANOVA 	<ul style="list-style-type: none"> • One-way ANOVA • <i>n</i>-way ANOVA

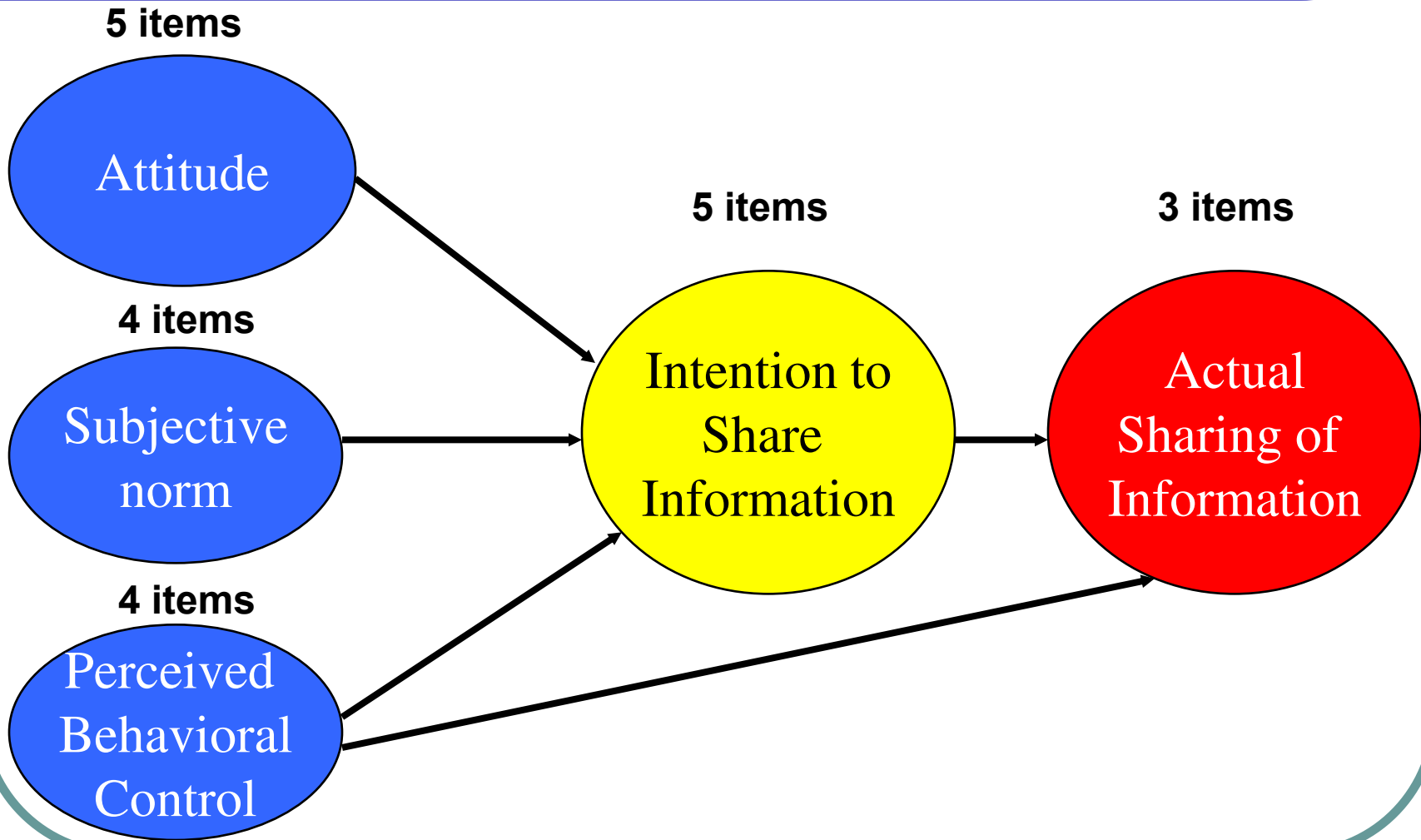
Data Transformation

**Strongly
Disagree**

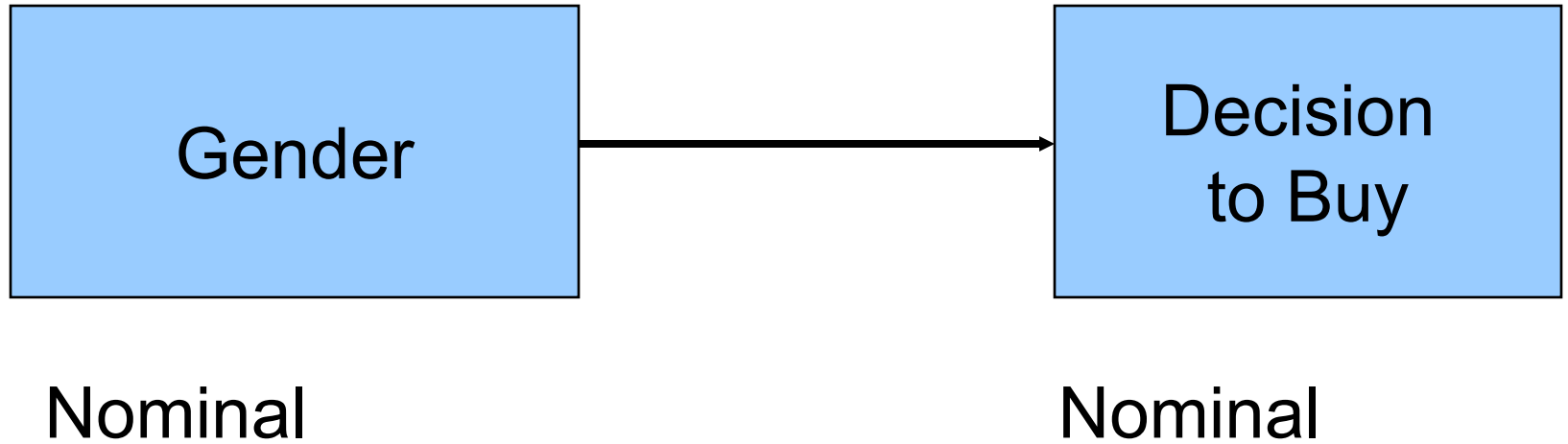
**Strongly
Agree**

<i>Section 1 - Computer Anxiety</i>							
Computers make me feel uncomfortable	1	2	3	4	5	6	7
I get a sinking feeling when I think of trying to use a computer	1	2	3	4	5	6	7
Computers scare me	1	2	3	4	5	6	7
I feel comfortable using a computer	1	2	3	4	5	6	7
Working with a computer makes me nervous	1	2	3	4	5	6	7

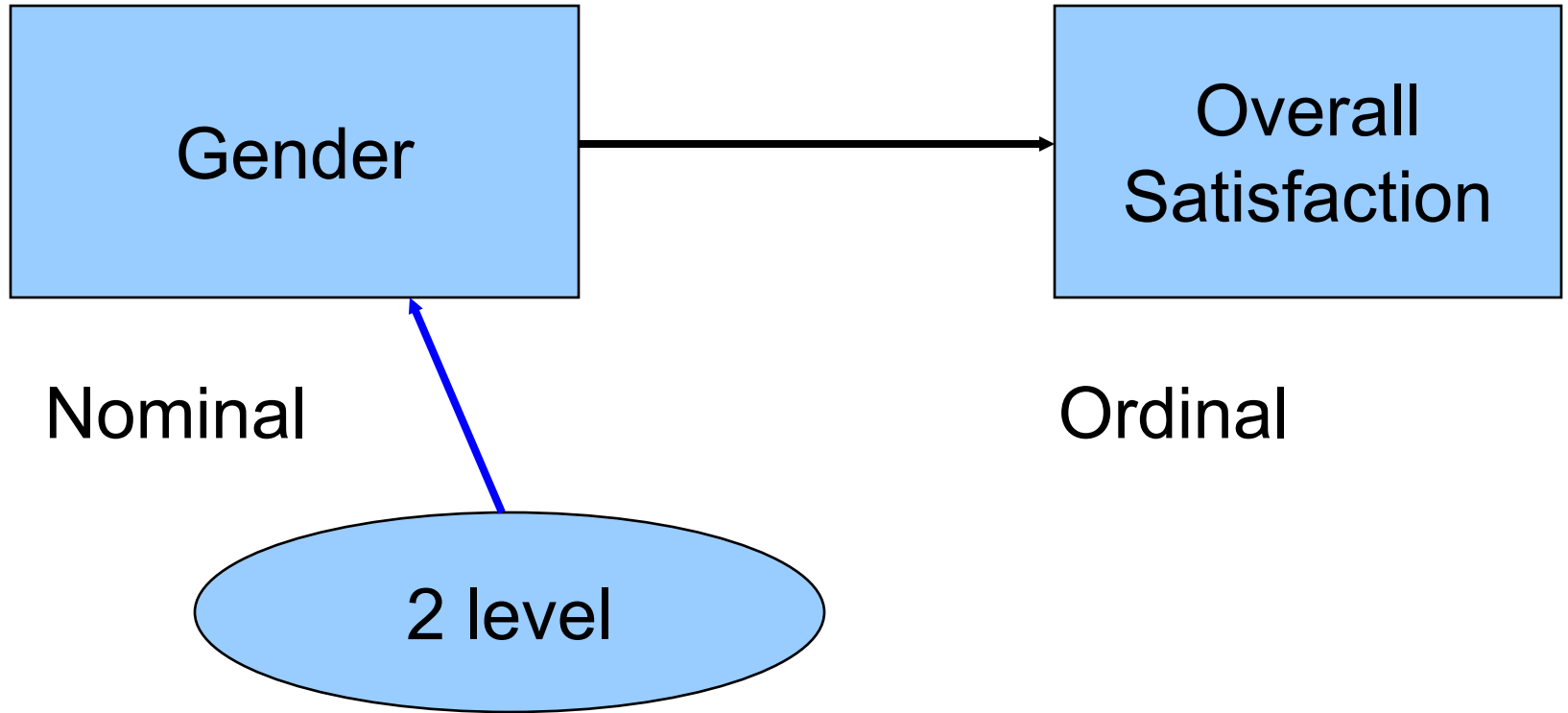
Research Model



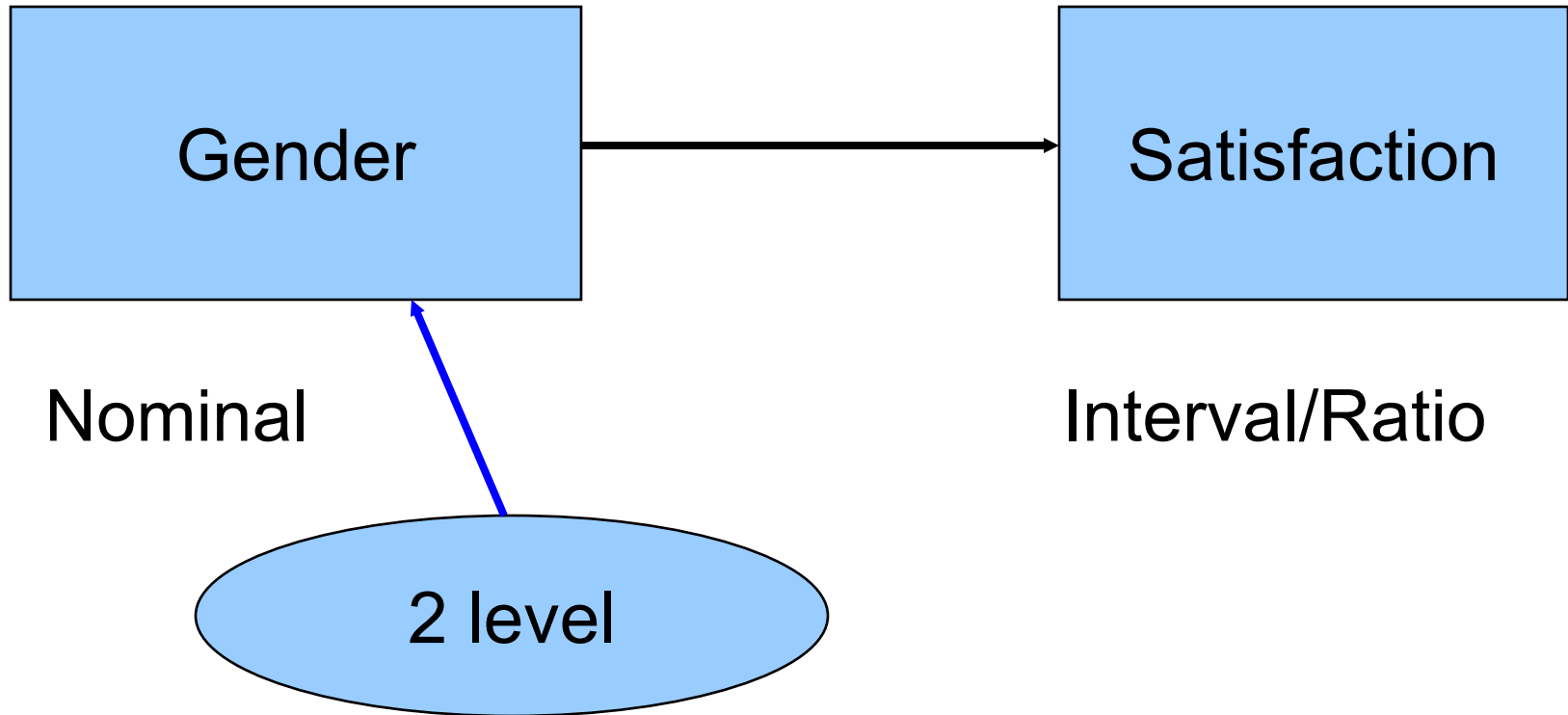
Test of Independence – χ^2



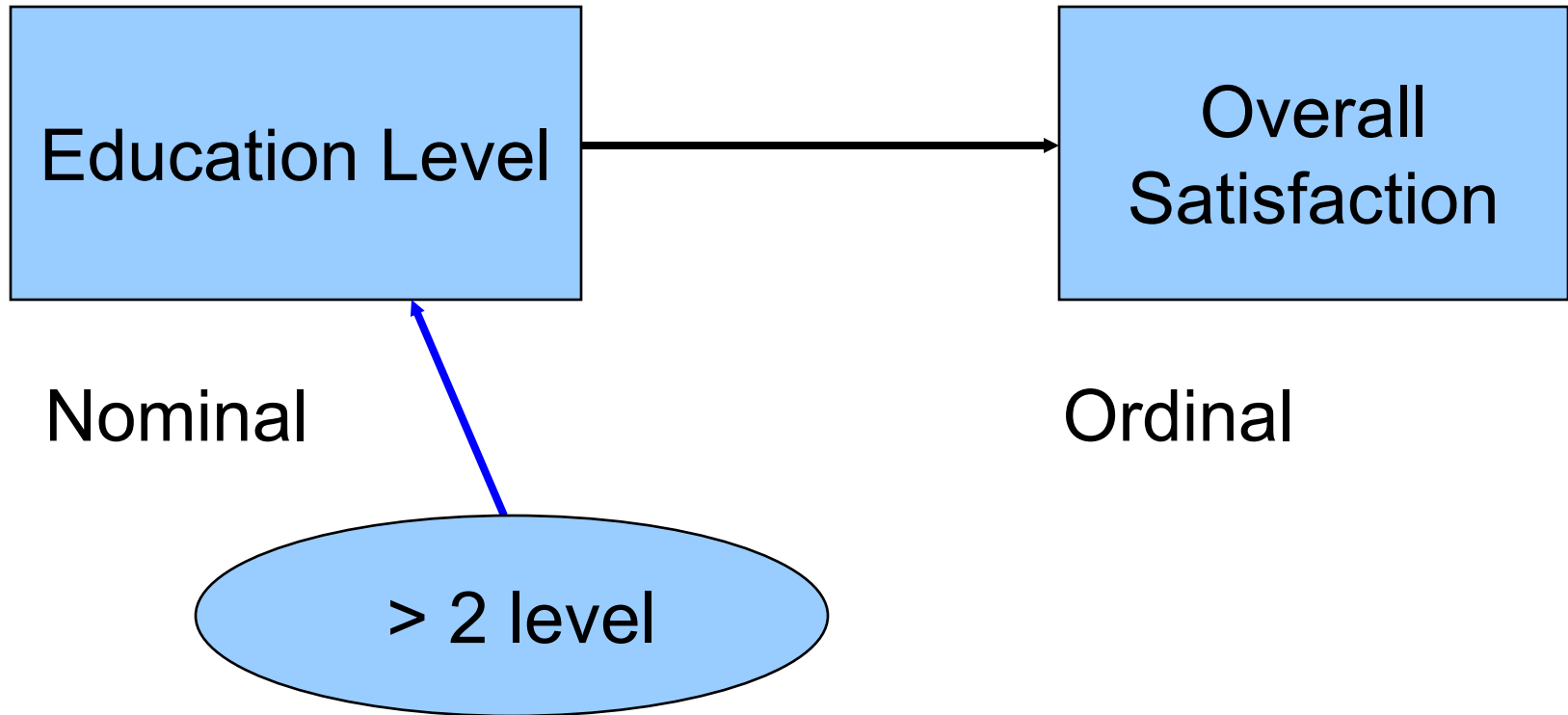
Test of Differences – Mann Whitney



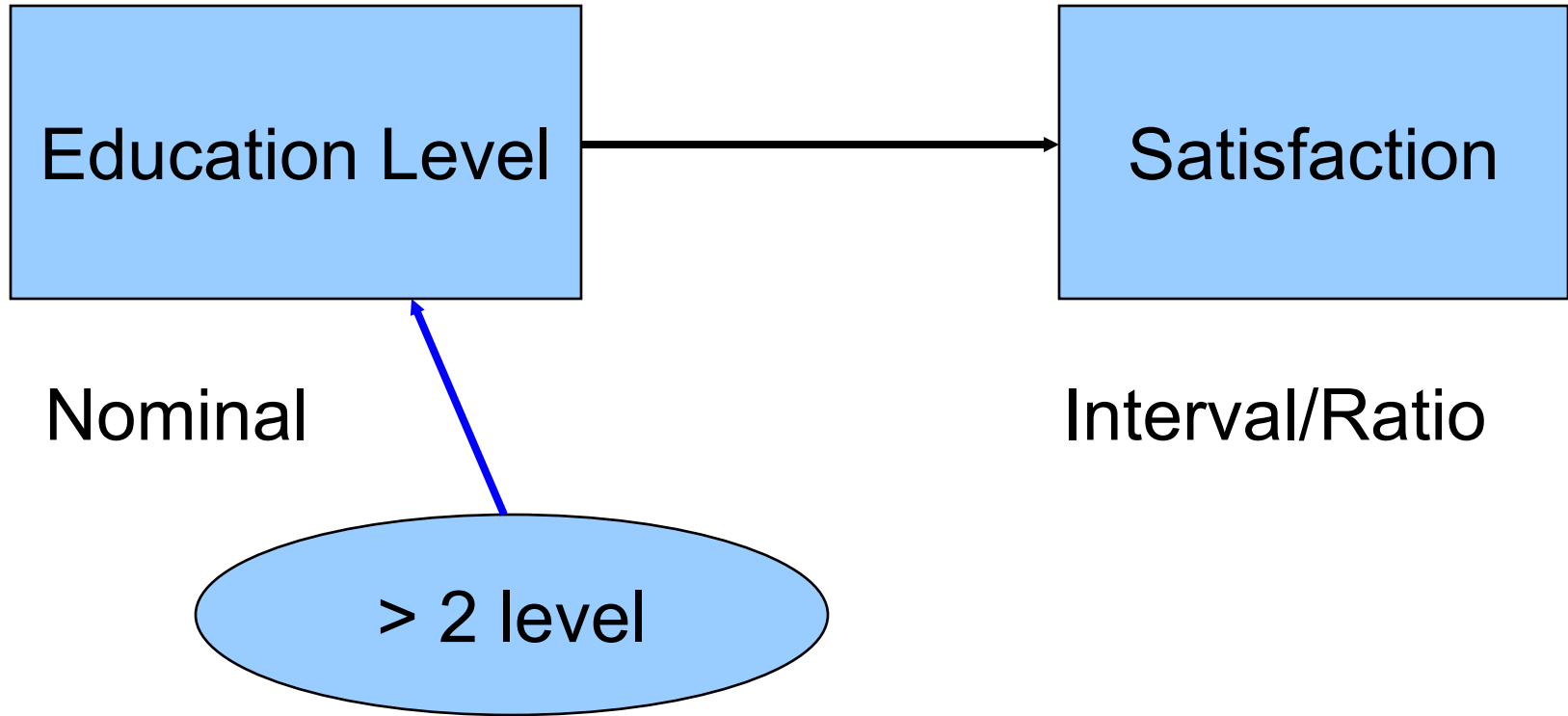
Test of Differences – t-test



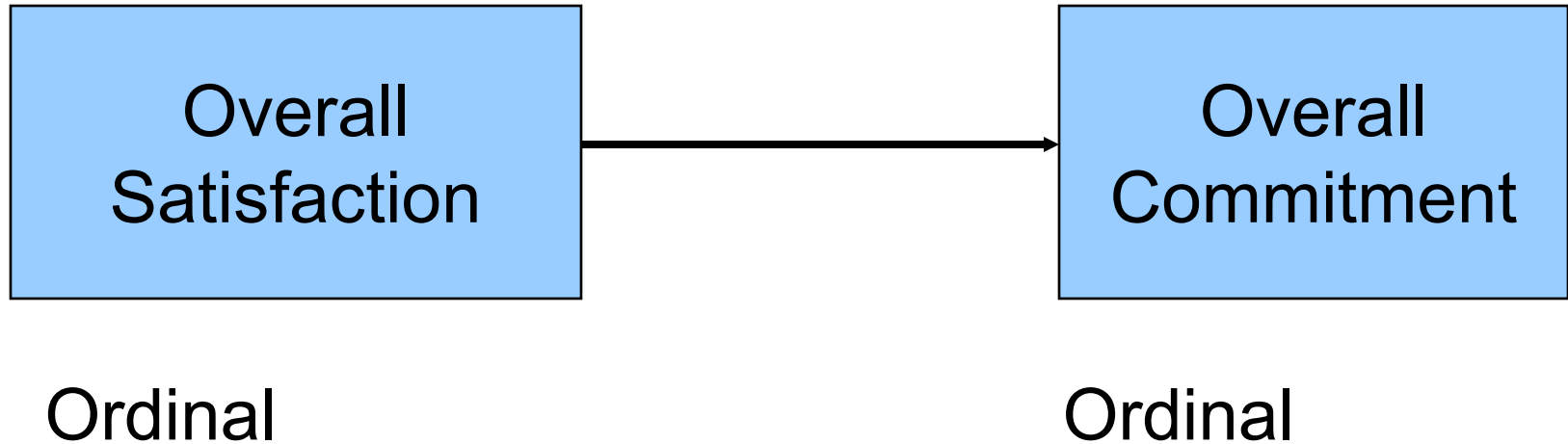
Test of Differences – Kruskal Wallis



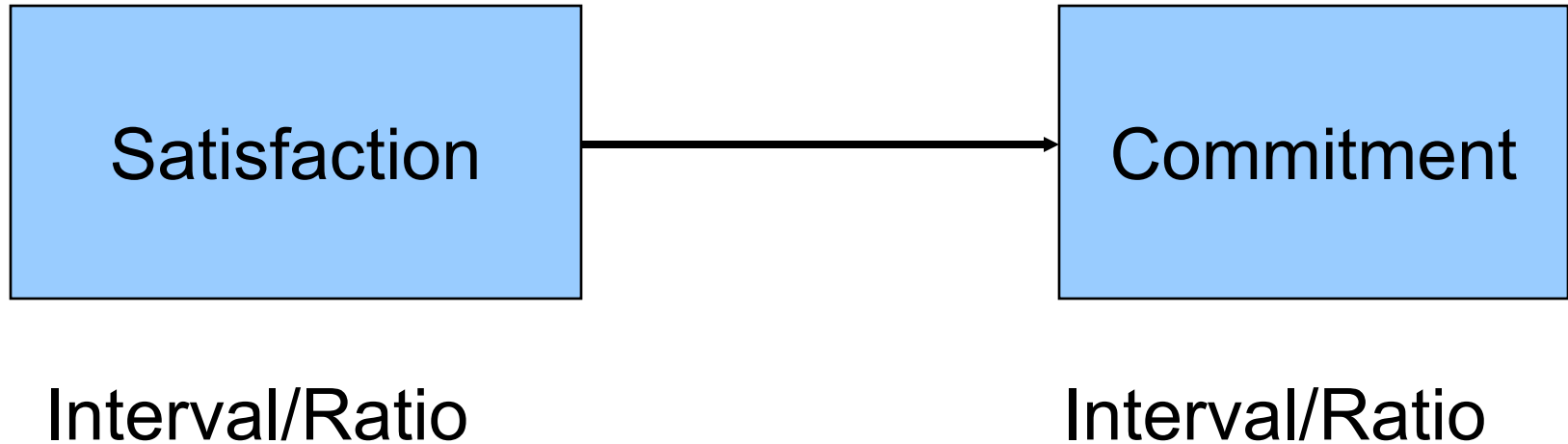
Test of Differences – One Way ANOVA



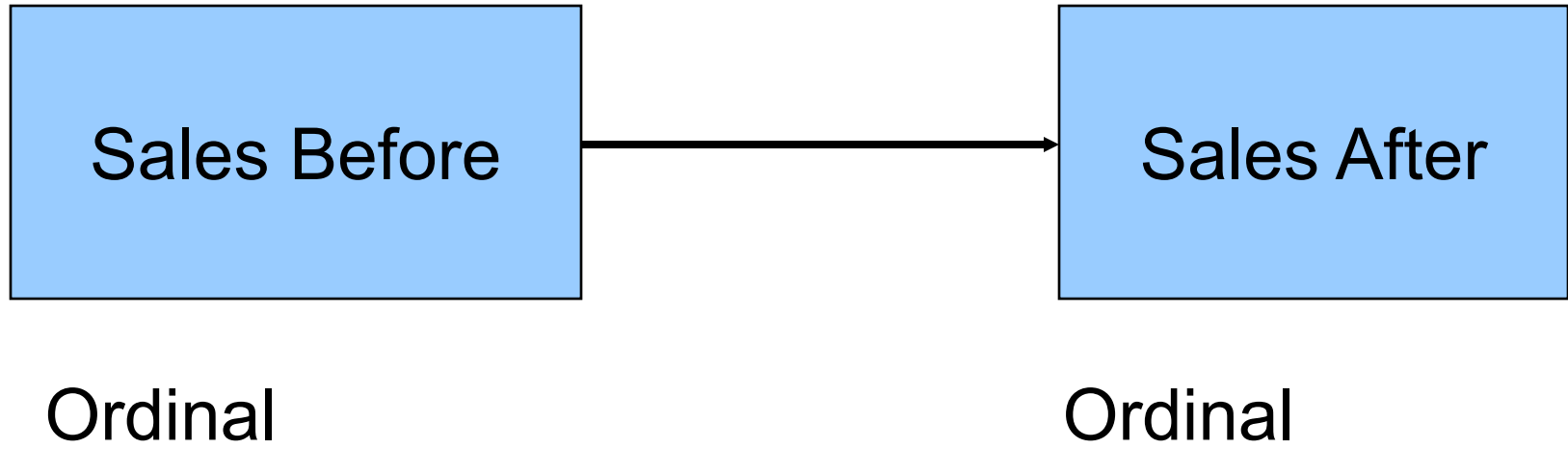
Test of relationship – Correlation (Spearman Rank)



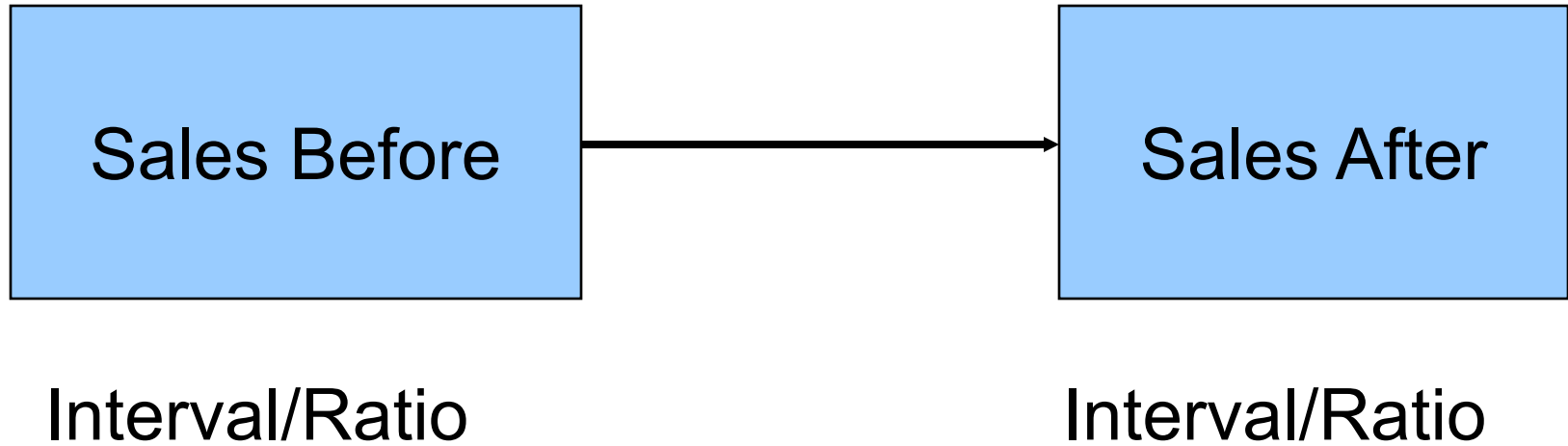
Test of relationship – Correlation (Pearson Zero Order)



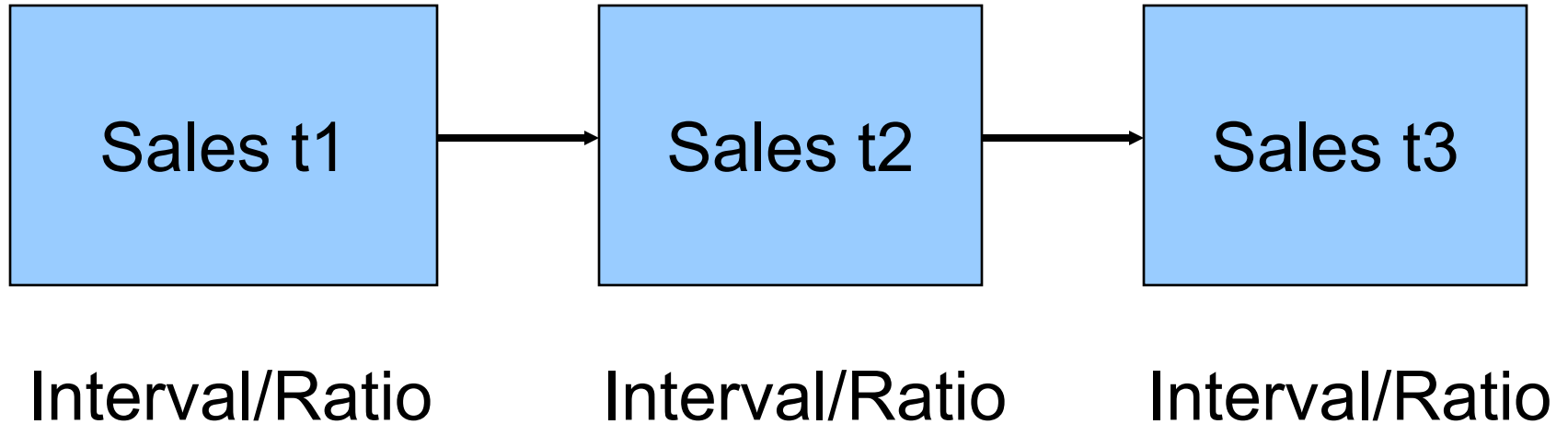
Experimental Design – Wilcoxon Matched Pair



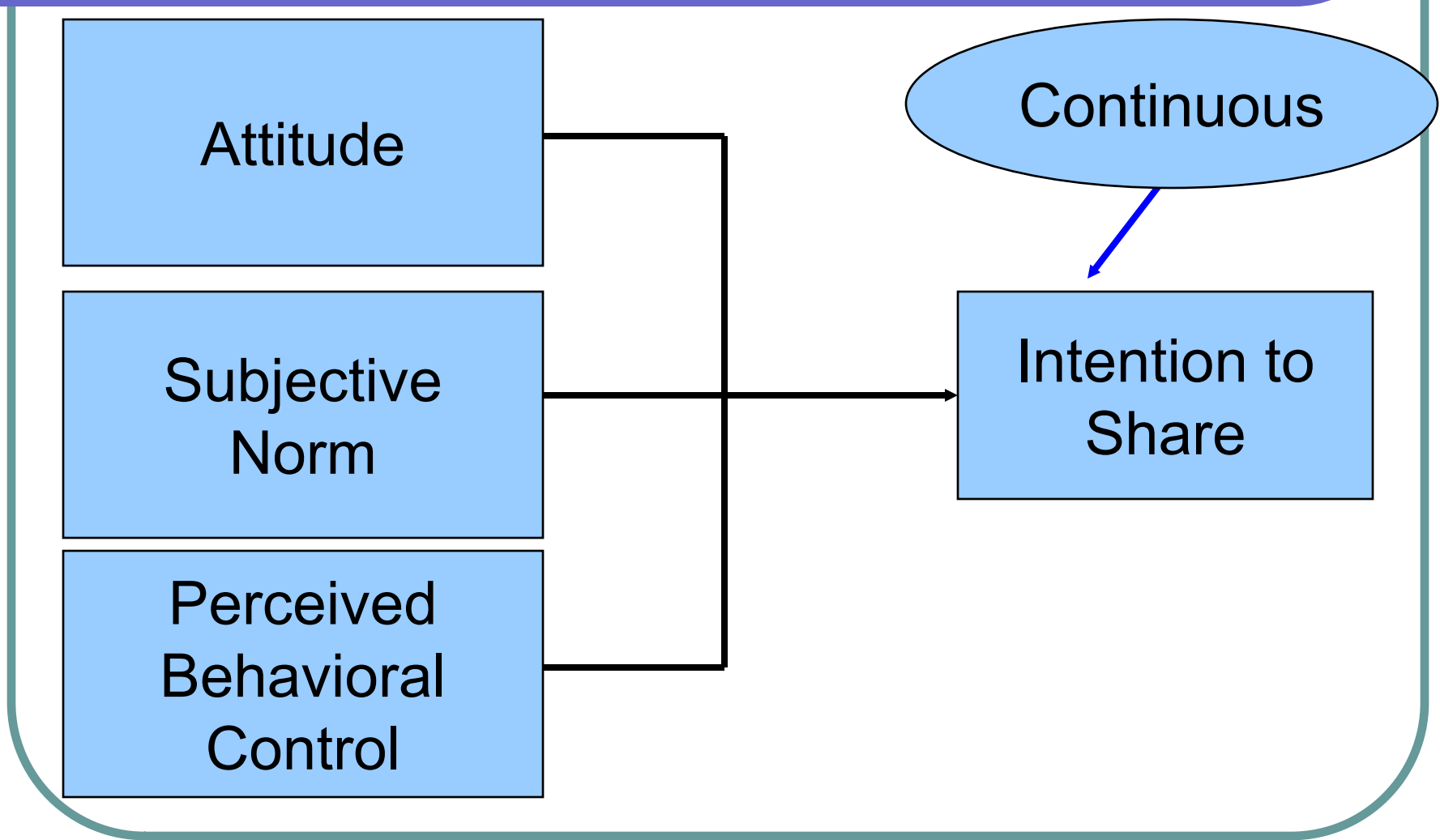
Experimental Design – Paired t-test



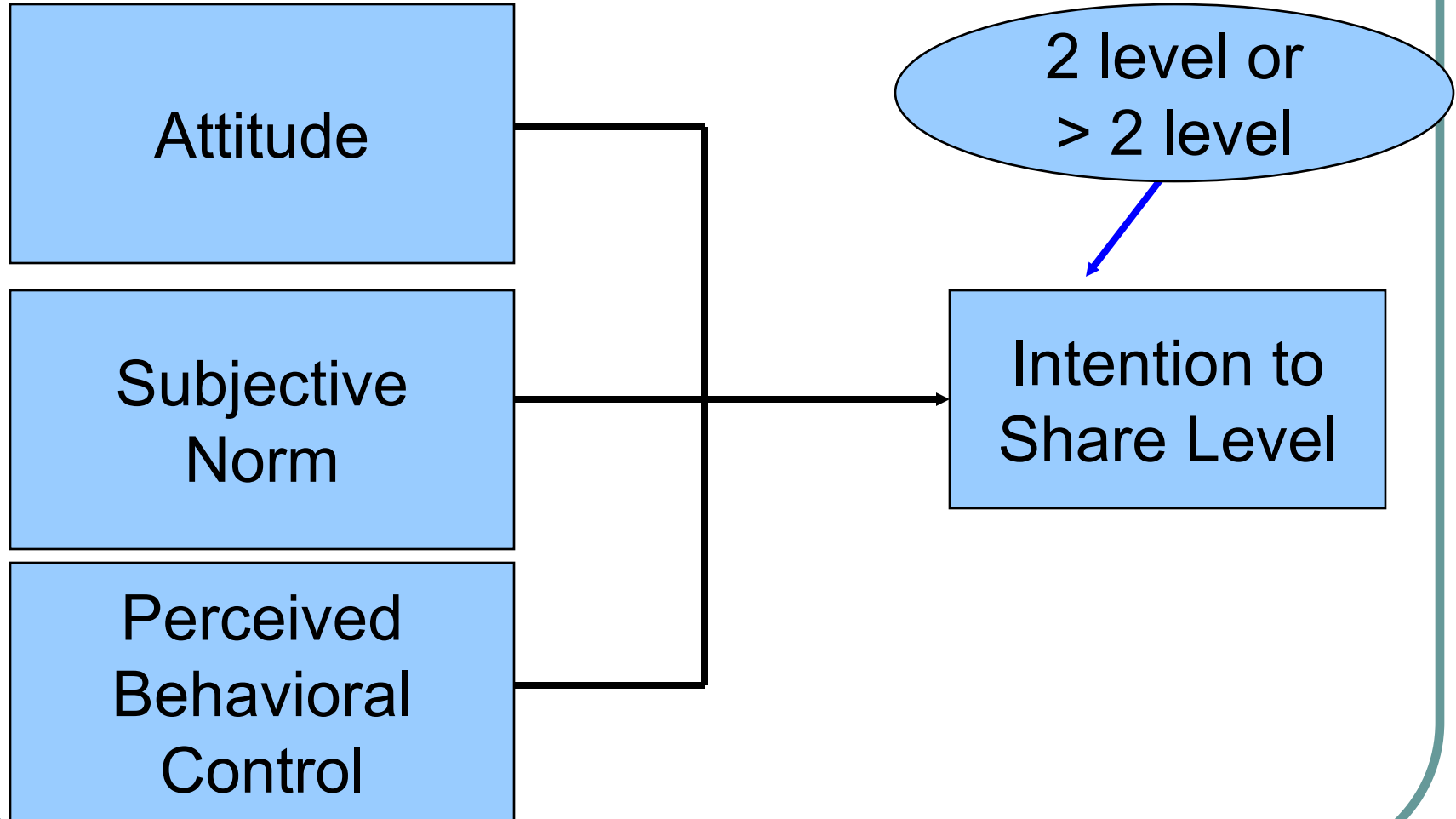
Experimental Design – Repeated Measure ANOVA



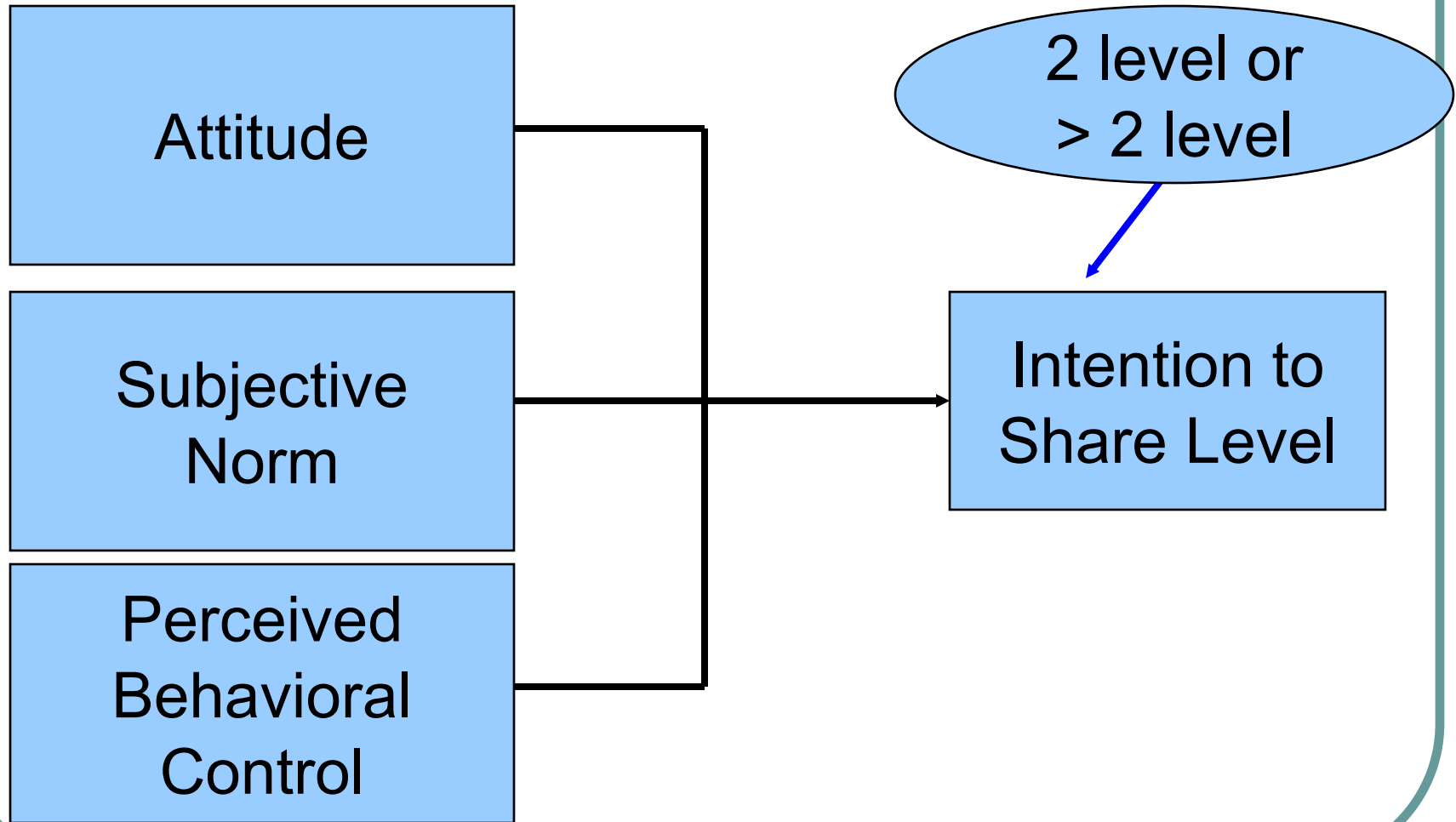
Test of Relationship – Multivariate Multiple Regression



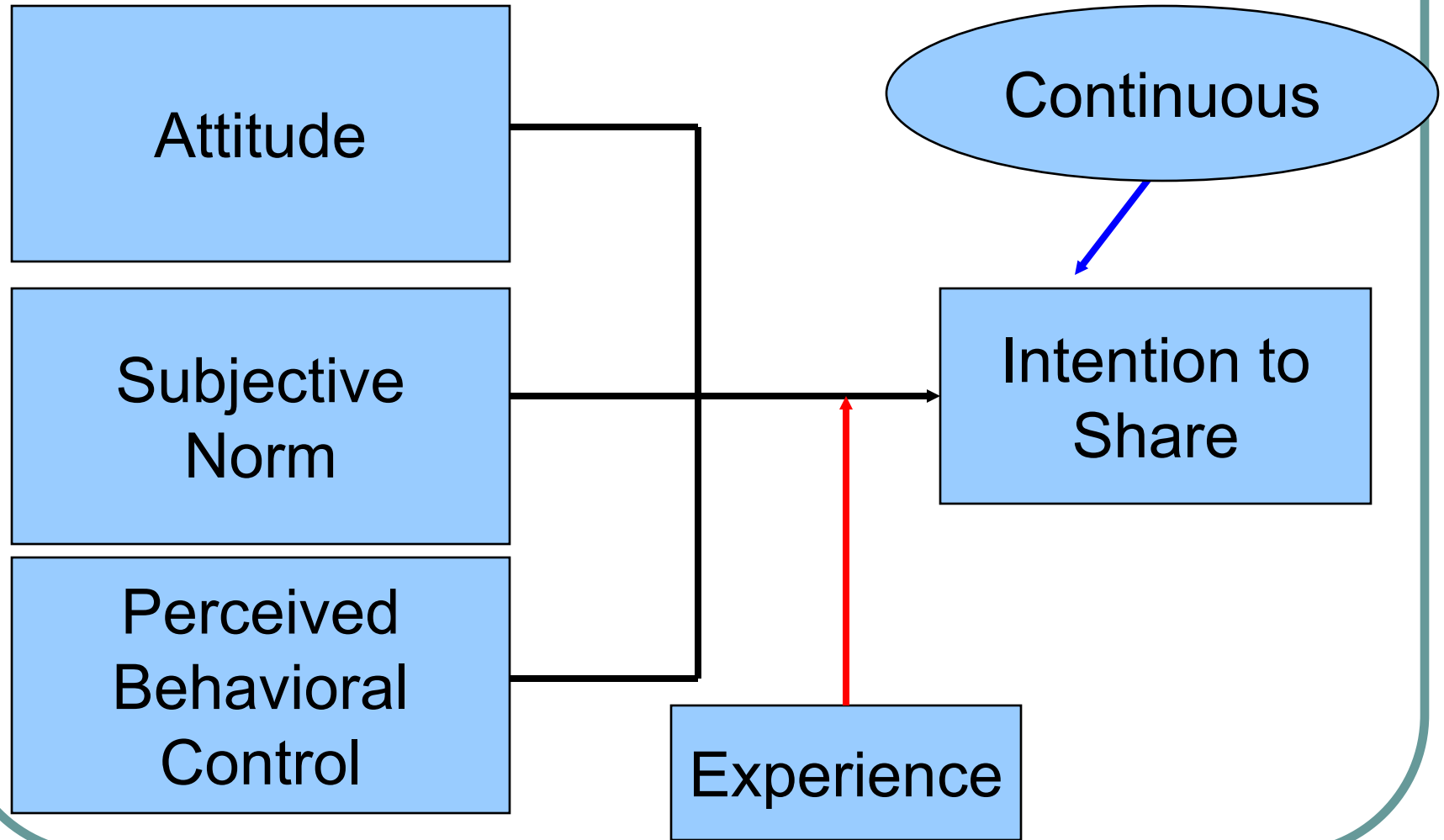
Test of Relationship – Multivariate Discriminant (Multiple)



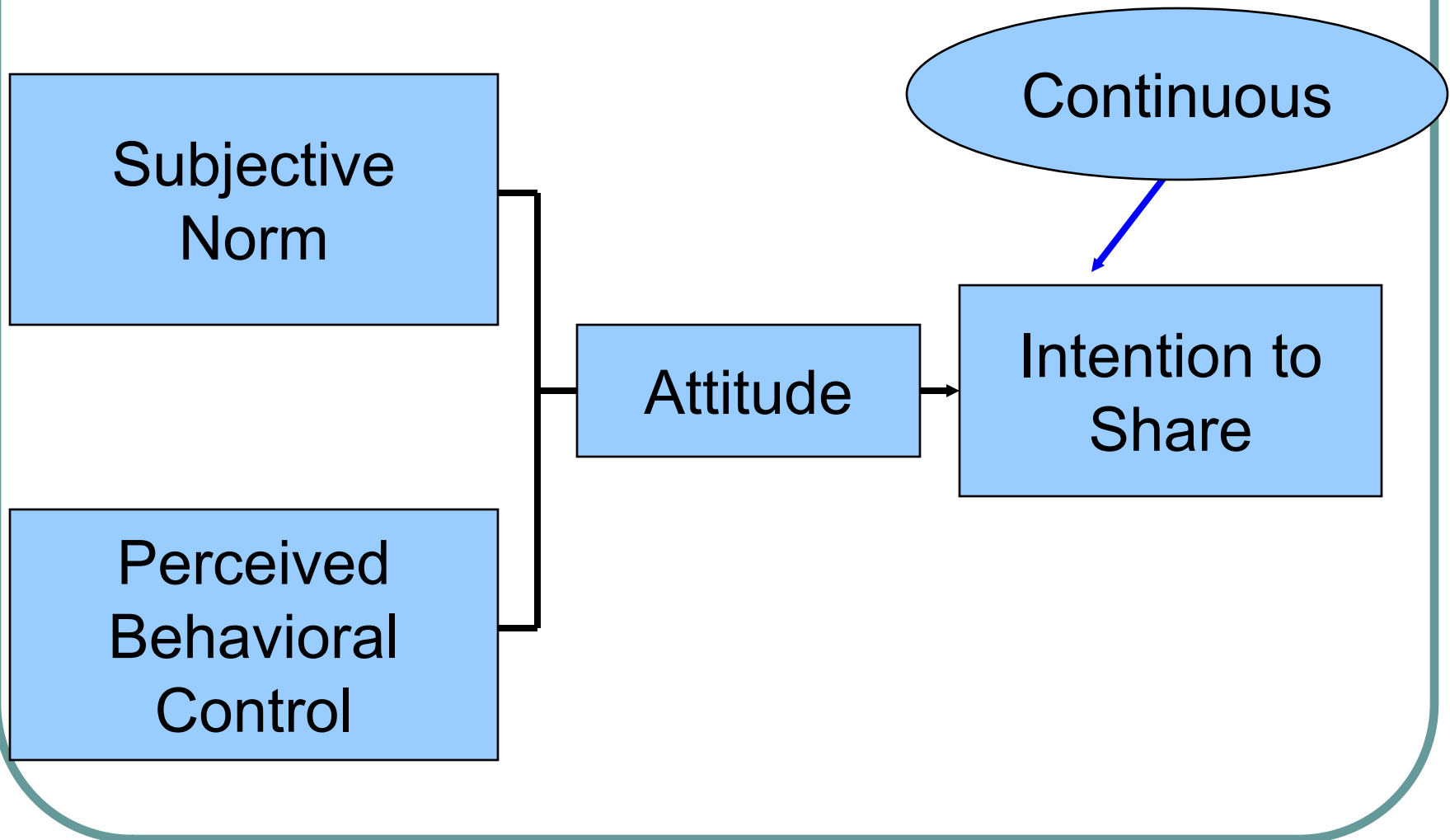
Test of Relationship – Multivariate Logistic Regression (Multinomial)



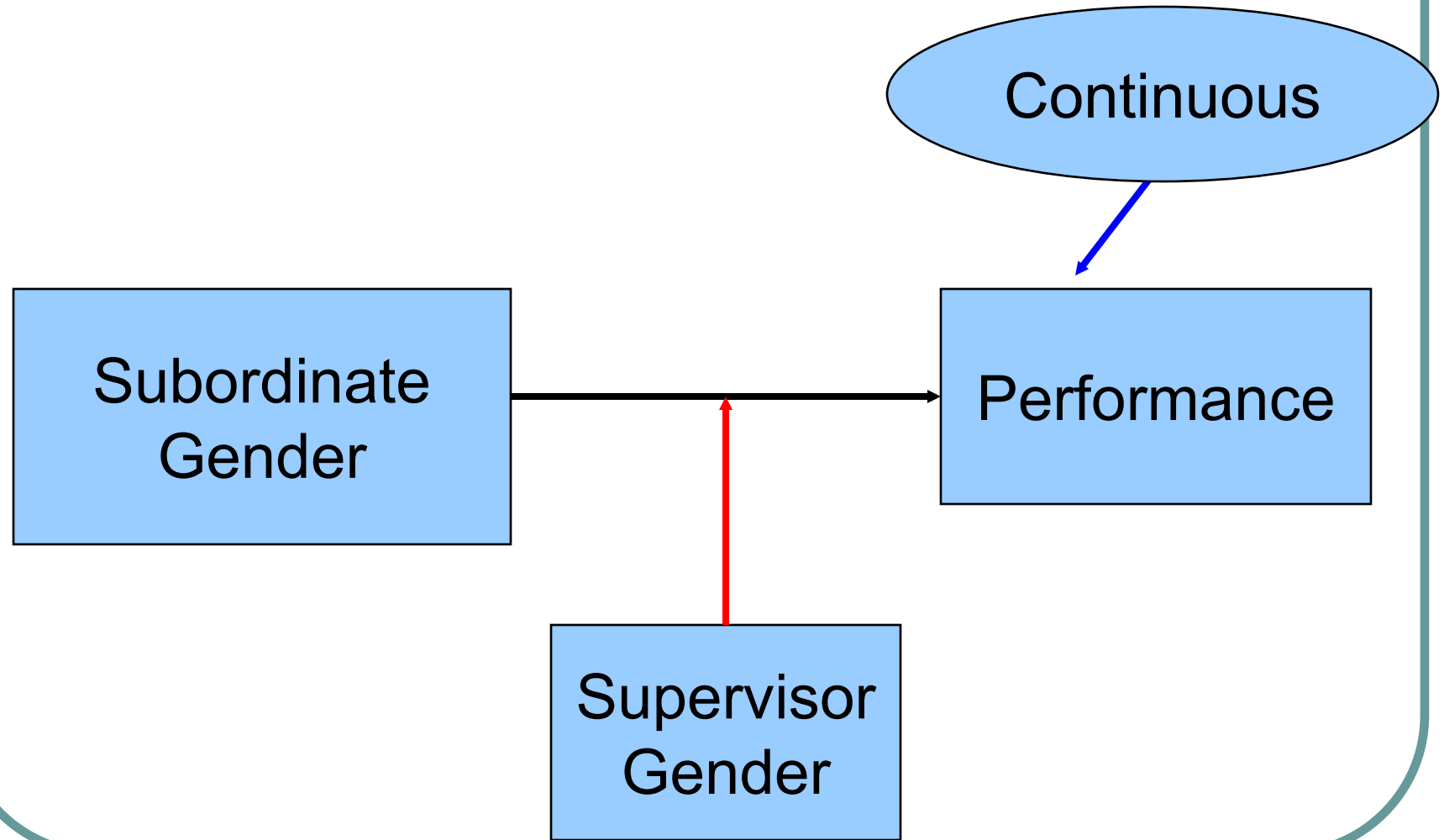
Test of Relationship – Multivariate Hierarchical Regression



Test of Relationship – Multivariate Mediated Regression



Experimental Design – Two Way ANOVA



When you keep saying you are busy,
then you are never free.

When you keep saying you have no time,
then you will never have time.

When you keep saying that you will do it tomorrow,
then your tomorrow will never come.



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