Module 3:
General Linear Model

MSIR 525

October 14-28, 2019

Recap of Module 2 (check list from syllabus; see pages 1-2)

- We learned about several issues in data sets (e.g., outliers, missing data, non-normal distributions) that may bring into question the robustness of empirical results

- We developed R code that will estimate descriptive statistics for a set of data

- We learned about the importance of interpreting and communicating descriptive statistics (e.g., in tandem, visually and empirically)

- Although we did not perform an ANOVA to assess if means differed across multiple groups, we discuss the technique's utility and limitations

- We learned how to perform a t-test; interpret its results; use its results to inform an evidence-based management decision
  - Importantly, we learned how to "explore further" to gain a better understanding of what the data are telling us

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- 10/28/2019
  - In-class exercise for credit (i.e., a hackathon)
  - Determine the strongest correlates of employee performance and turnover behavior

Agenda for Module 3

- Let's get started! ☺

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  - In other words, are the screening tools useful for forecasting important outcomes that will affect organizational performance

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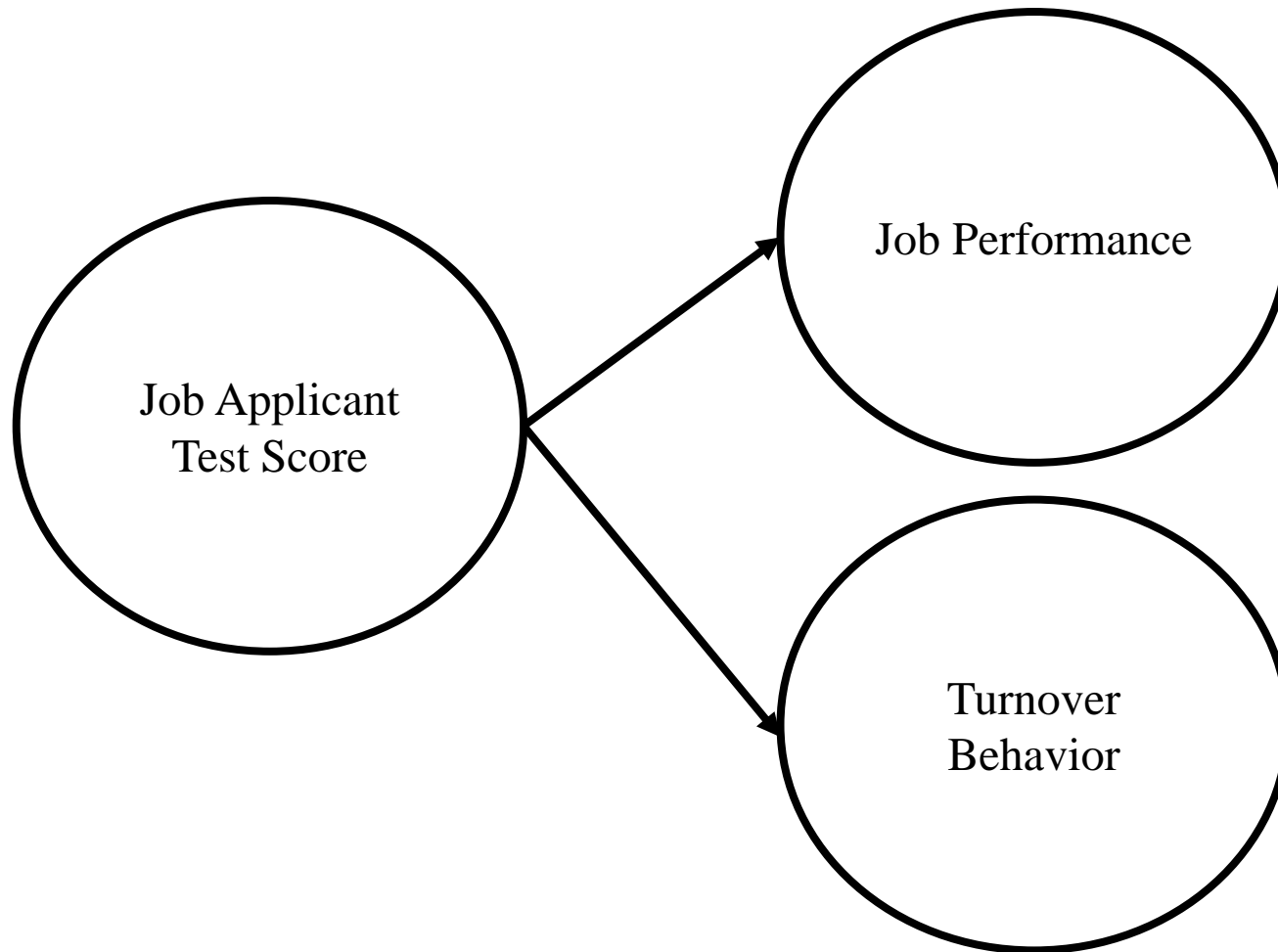- To summarize the central tendency of *one* variable

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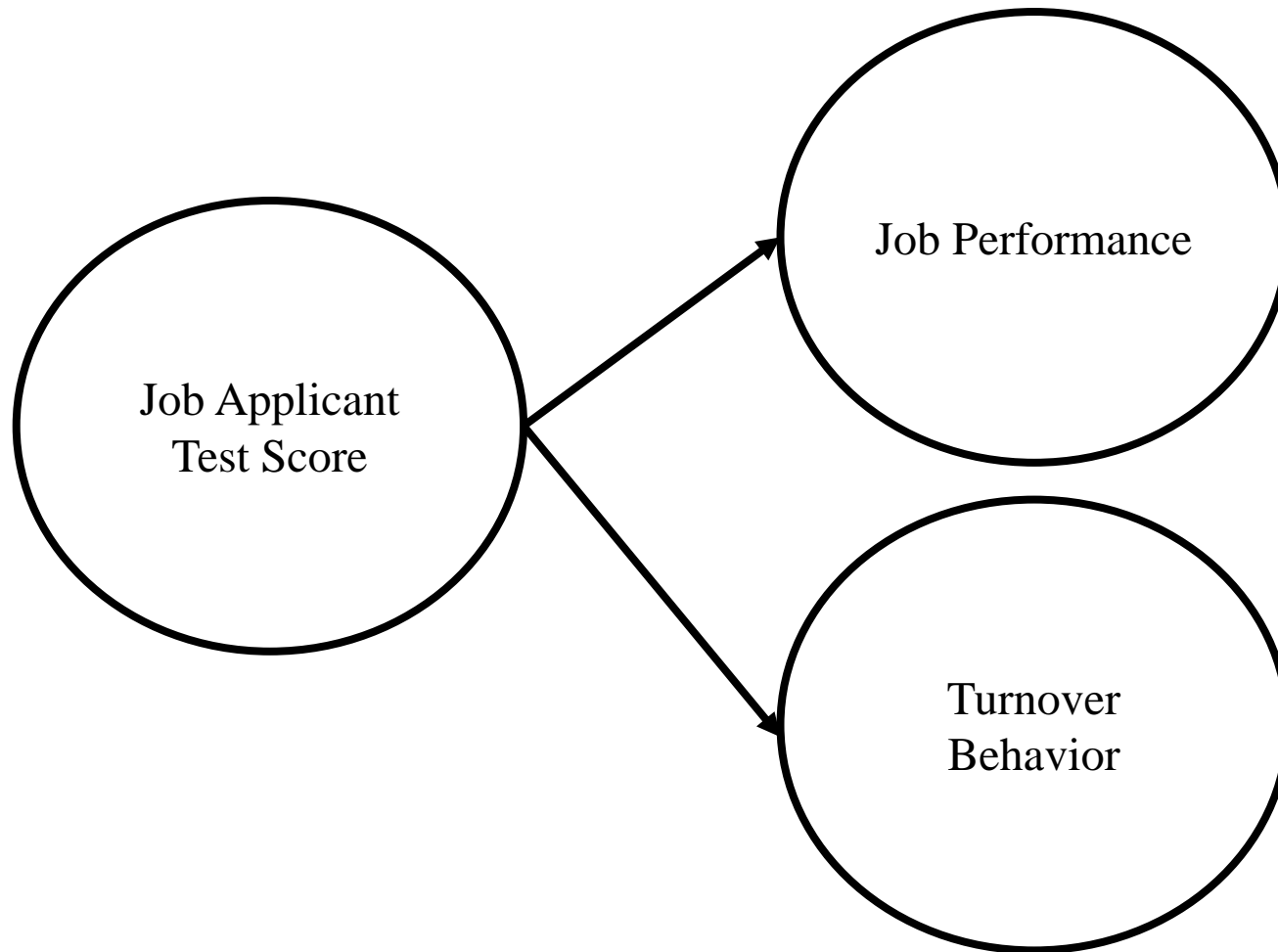- You're right, we don't know how to do this just yet (it's the whole purpose of Module 3!

So, let's go and learn about the correlation coefficient and the simple linear regression model

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Job Applicant Test Score
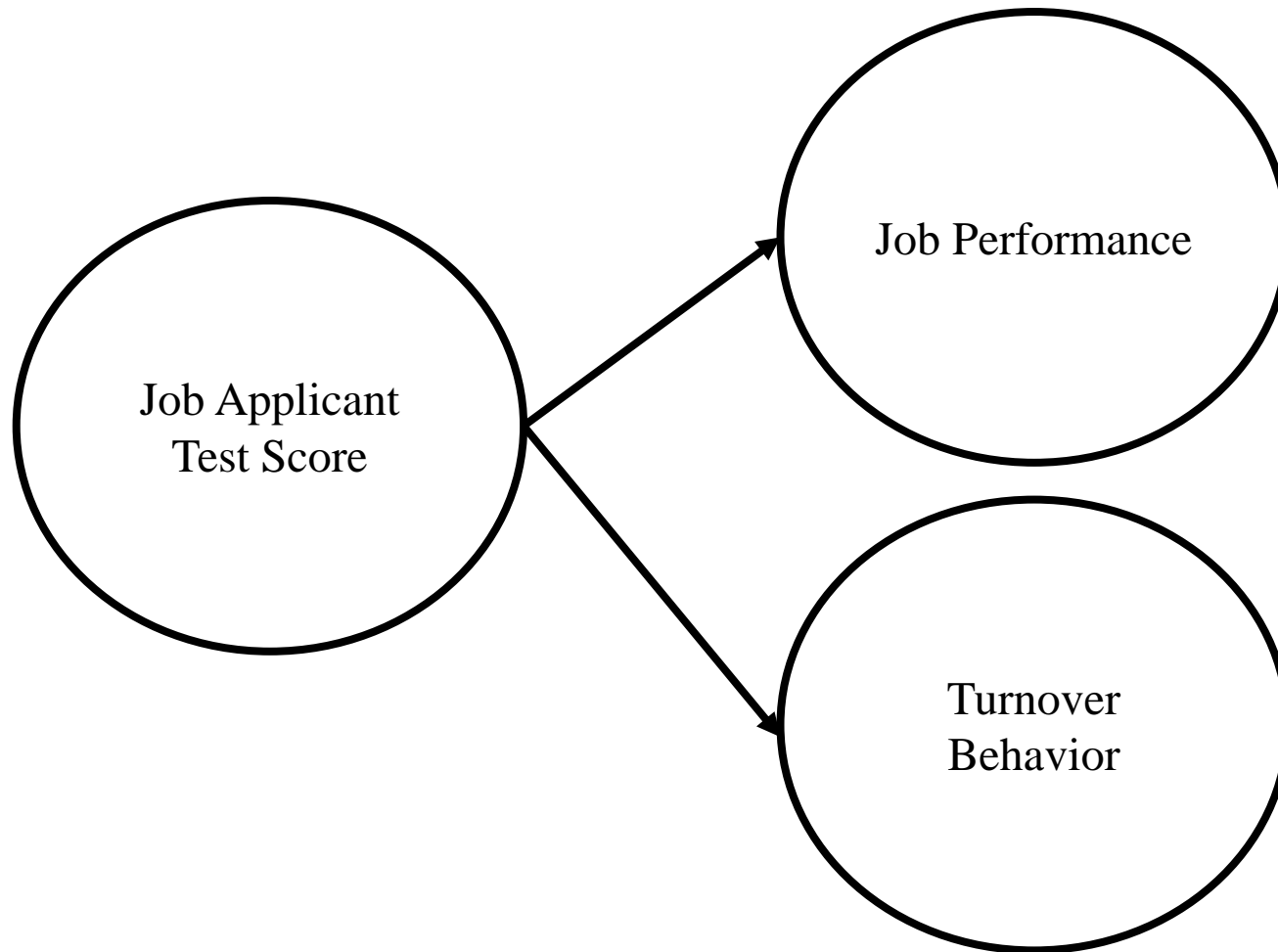
Job Performance

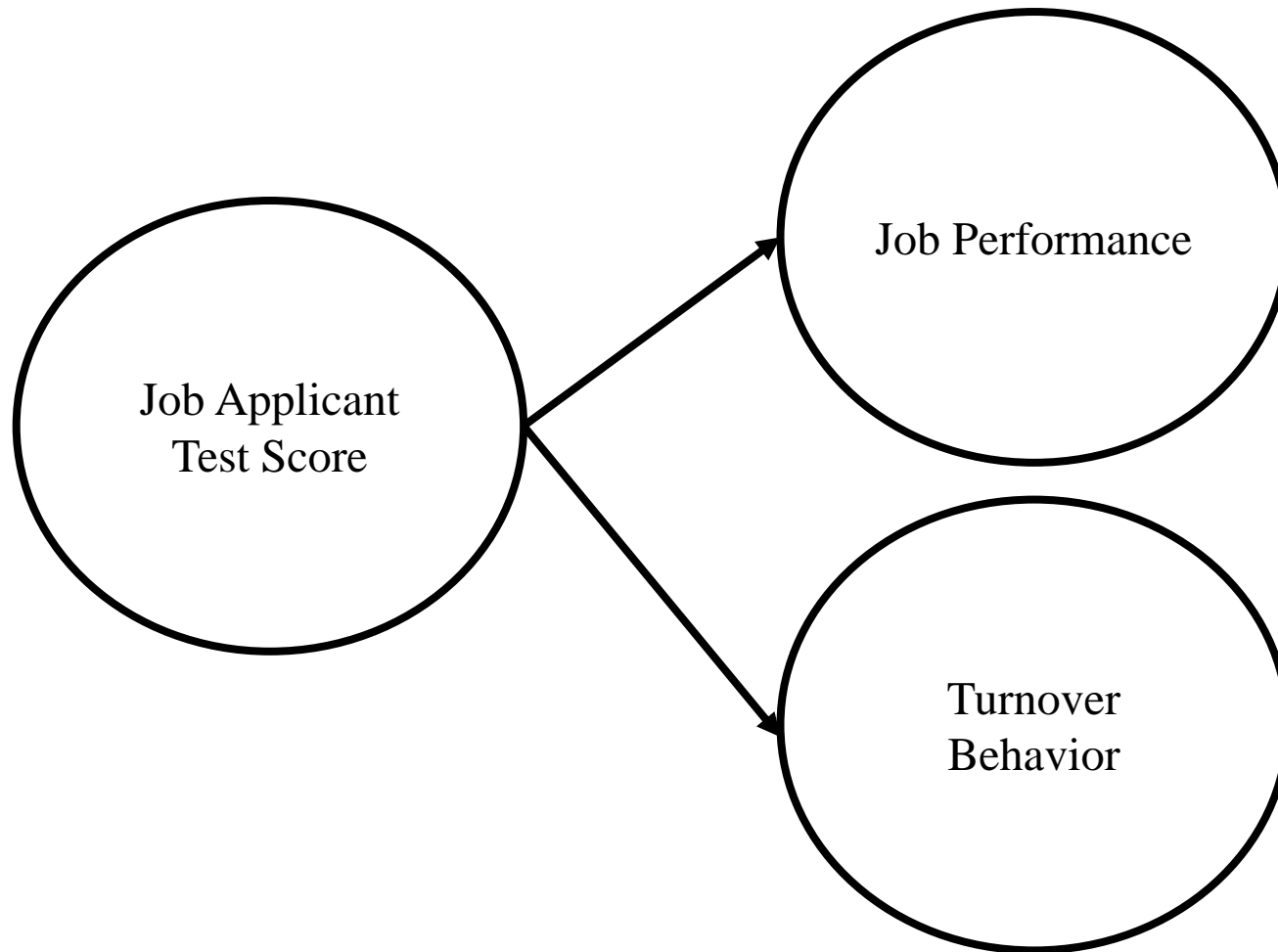Turnover Behavior

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First, we can use the *correlation coefficient* to measure the association between variables in each of relation of interest

    (1) Test score → Performance
    (2) Test score → Turnover

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Job Performance

Job Applicant
Test Score

Turnover
Behavior

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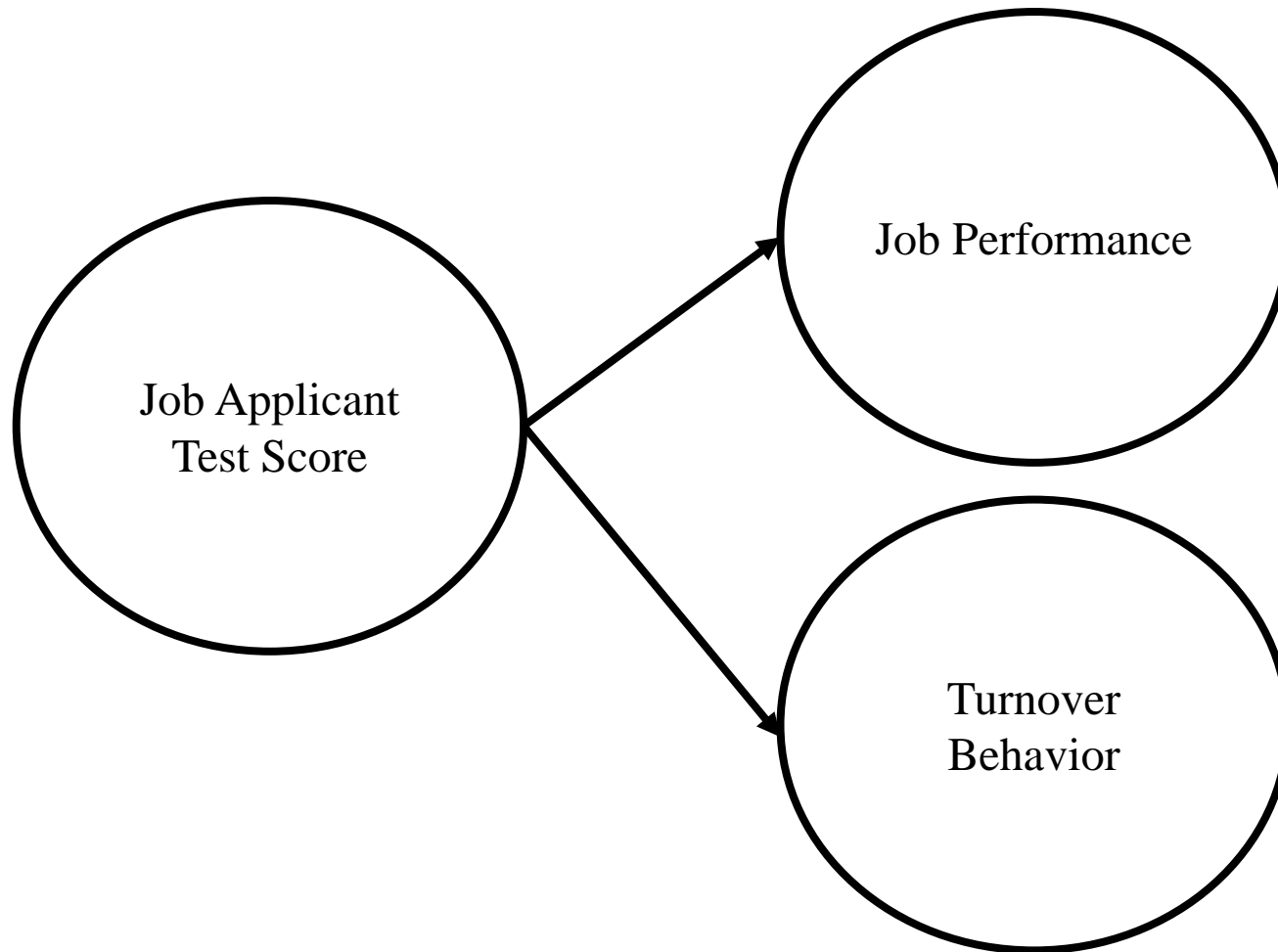
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We are looking at the association between two things.

We are not predicting one them from another

Motivating Example:

- Imagine that you are an HR Analyst who is interested in knowing if there is a relationship between an individual's applicant exam score and (a) future job performance and (b) future turnover behavior.

- Effectively, you want to know if the organization's current screening tools have important validity outcomes.