

Application of Chi Square

Jillian C. Gates

Doctoral Candidate
Gifted Education Resource Institute
Purdue University

Overview

- Quick definition
- Use of chi square in this article
- Rigor
- Limitations

Introduction

- PhD Candidate in Gifted Education
- Research interests
 - Possibility of giftedness misdiagnosed as ADHD
- Dissertation Research

Chi Square

- Tests the association between two variables.
- Variables are scaled at the nominal level.
- An effect size should also be computed when computing a chi square.

Article Summary

- Early adolescent career-track choices
- High School diploma choices (Standard Course of Study) of 522 8th graders:
 - Occupational – Special Education
 - Career – entry-level jobs / community college
 - College Tech – advanced technical field
 - College / University

Article Summary ⁽²⁾

- **Categorical Variables:**

- Race, gender, ESL status, SES, ability classification, students' SCOS choice

- **Continuous Variables:**

- Mid-year GPA, attendance, discipline referrals

Use of Chi Square

- Chi square analyses examined the differences in SCOS choices based on:
 - ESL Status: $X^2 (3,522)=5.2, p=.305$
 - Ability classification: $X^2 (6,520)=120.99, p<.000$ effect size .11
 - Student race: $X^2 (12,520)=15.4, p=.322$
 - Gender: $X^2 (3,522)= 11.87, p=.008$ effect size .01
 - SES: $X^2 (3,521)= 38.86, p<.000$ effect size .04

Use of Chi Square ⁽²⁾

- Chi square analyses examined the differences in SCOS choices based on:
 - Gender: $X^2 (3,522) = 11.87, p = .008$
 - SES: $X^2 (3,521) = 38.86, p < .000$

Conclusion

- Although some of these findings may be intuitive, there is cause for concern that student-centered factors such as SES, GPA, and ability can have an important effect on career choices at a very early age.