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Risk Factors Associated with First-Year College Dropout

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Introduction

College attrition in the United States is a pervasive issue among young adults. Among those 25 year or older, 19.5% of those who attempted college failed to obtain a degree (U.S. Census Bureau, 2006). Dropout is problematic for a number of reasons. Students who dropout of college earn less than college graduates, and are still responsible for paying back student loans (Horn, Berger, & Carroll, 2004). Not only is college attrition financially harmful on an individual level, it also has broader social implications by affecting economic growth and national development (Martinez, Sher, & Wood, 2008).

Previous research has shown that a variety of factors can impact college student's academic performance, including healthy nutrition, physical activity, substance use, smoking, early sexual activity, bullying, excessive television watching, internet use, and playing video games (Busch, Loyen, Lodder, & Schrijers, 2014). Heavy alcohol use is the most notable risk factor for attrition and poor academic performance because it is prevalent among college-aged individuals. Heavy alcohol use is also linked to increased likelihood of injury, assault, property, damage, and mortality (Johnston, O'Malley, Bachman, and Schulenberg, 2005) and may be indirectly linked to academic performance (Conway & DiPlicado, 2015). The purpose of the current study was to explore possible predictors of dropout in students after their first year of college.

Methods

- Spit for Science 2011 – 2013 cohorts
- Students who participated in fall of freshman year (N=6,105)
- Logistic regression models for factors associated with dropout after freshman year using the logit command in Stata14.
- Linear regression models for different risk factors associated with GPA.

Measure: used included:
- Binary indicator for dropout after freshmen at VCU
- Students' GPAs at the end of the semester
- The Big Five Inventory of personality traits
- Stressful/traumatic events before coming to VCU
- Familial, mental/behavioral risk factors
- Demographic: age, sex, race, cohort, & parental education level

Results

- Negatively Associated with Dropout Rates
  - Greater parental education (OR = 0.908, p < 0.01)
- Positively Associated with Dropout Rates
  - Greater levels of depression (OR = 1.068, p < 0.01)
  - High school peer deviance (OR = 1.024, p < 0.05)
  - Heavy drinking (OR = 3.6, p < 0.05)
  - Stressful life events (OR = 1.078, p < 0.05)
- Personality & familial risk factors not significantly associated with dropouts
- After GPA (OR = 0.395, p < 0.001) was included as covariate
  - Depression (OR = 1.04, p < 0.05) = only risk factor significantly associated with dropout
  - Parental education, depression, high school peer deviance, heavy drinking, stressful situations p-values > 0.05

Discussion

Our research question focused on the risk factors that may influence college dropout after student's first year, including health outcomes, family, stress, trauma, and personality. Multiple risk factors, including depression, high school deviance, heavy drinking, and stressful life events, were positively and significantly associated with dropout. Only parental education was negatively correlated with dropout. However, almost all these previously significant associations disappeared when GPA was included in the statistical analysis. GPA was the strongest predictor of dropout. Supplementary analyses revealed that many of the factors that were found to be significantly associated with dropout rates were significantly related to GPA, suggesting that these risk factors may influence dropout through their effect on GPA.

Despite our significant findings, there were several limitations. The study was conducted to individuals in the first three cohorts who answered the survey during fall of their freshmen year. Our measures were limited to self-reported items via online surveys, and are subject to reporting bias. Additionally, the dropout variable was unclear because transfer students were also included in the dropout group. The study only focused on factors that might promote dropout. Because not every risk factor was included, further studies could include protective factors that affect GPA. Future directions include formally testing the mediation model between risk factors and dropout.

Data and Graphs

- Probability of Dropout across Levels of Depression in First Year College Students
- Probability of Dropout across Self-Reported Drinking in First Year College Students
- GPA across Risk Profiles in First Year College Students
- Predicted value of GPA based on categorizing individual into risk profiles. Each risk profile represents the predicted value of GPA when individuals are in the corresponding quartile of risk. Risk factors include the presence of problems (such as trauma and depression) and the absence of protective factors (such as parental education). Bars represent 95% confidence intervals.

References


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