Student self-esteem predicted by academic emphasis and success

Introduction

- There is general academic consensus that greater self-esteem has a positive impact on academic performance

- Additional research that suggests that this relationship may be reciprocal

Data

- From the Alfred P. Sloan Study of Youth and Social Development
  - Collected from 12 sites encompassing 33 schools: 20 middle schools and 13 high schools
  - Large geographic, socioeconomic, and racial variation between them
- Year 1 (1992–1993) cohort sample → 1212 participants after filtering
- **Predictor variables**: Report card grades, grades importance
- **Outcome variable**: Self esteem (I feel I am a person of worth, the equal of other people)
- Among secondary school students, are report card grades and importance placed on grades associated with self-esteem?

Confounding/assisting variables

- Identities
  - Race
  - Gender
  - Grade year
  - Community economic class
- External pressures
  - Grades importance to friends
  - Expectations of family
  - If student attempts to make family proud
  - School rules strict
- How much deep understanding was asked in classes
 - Math, science, history, English

Methods

- Ordinal response variable → utilized proportional odds test
- Proportional odds assumption holds:
  - Effect of an independent variable is constant for each increase in response level
  - Regression will produce: an intercept for each level of the response except one, & a single slope for each explanatory variable
- Four models considered:
  1. Grades importance and report card grades (study variables)
  2. Study variables + identities
  3. Study variables + external pressures
  4. Study variables + asked understanding
- Models reduced through backwards stepwise selection according to AIC, with the base model as the null

Results

	Base	Base + Identities	Base + Pressures	Base + Understanding
AIC	2455	2427	2425	2432
Significant?	Above null: ✅ p < 0.001	Above base: ✅ p < 0.001	Above base: ✅ p < 0.001	Above base: ✅ p = 0.002
Variables (* = significant)	Grades' importance Report card grades*	Grades' importance Report card grades* Race* Gender* Community class	Grades' importance Report card grades* Importance of good grades to friends* Family expects best*	Grades' importance Report card grades* Asked understanding in history*

Base model

GradesImportance*ReportCardGrades effect plot
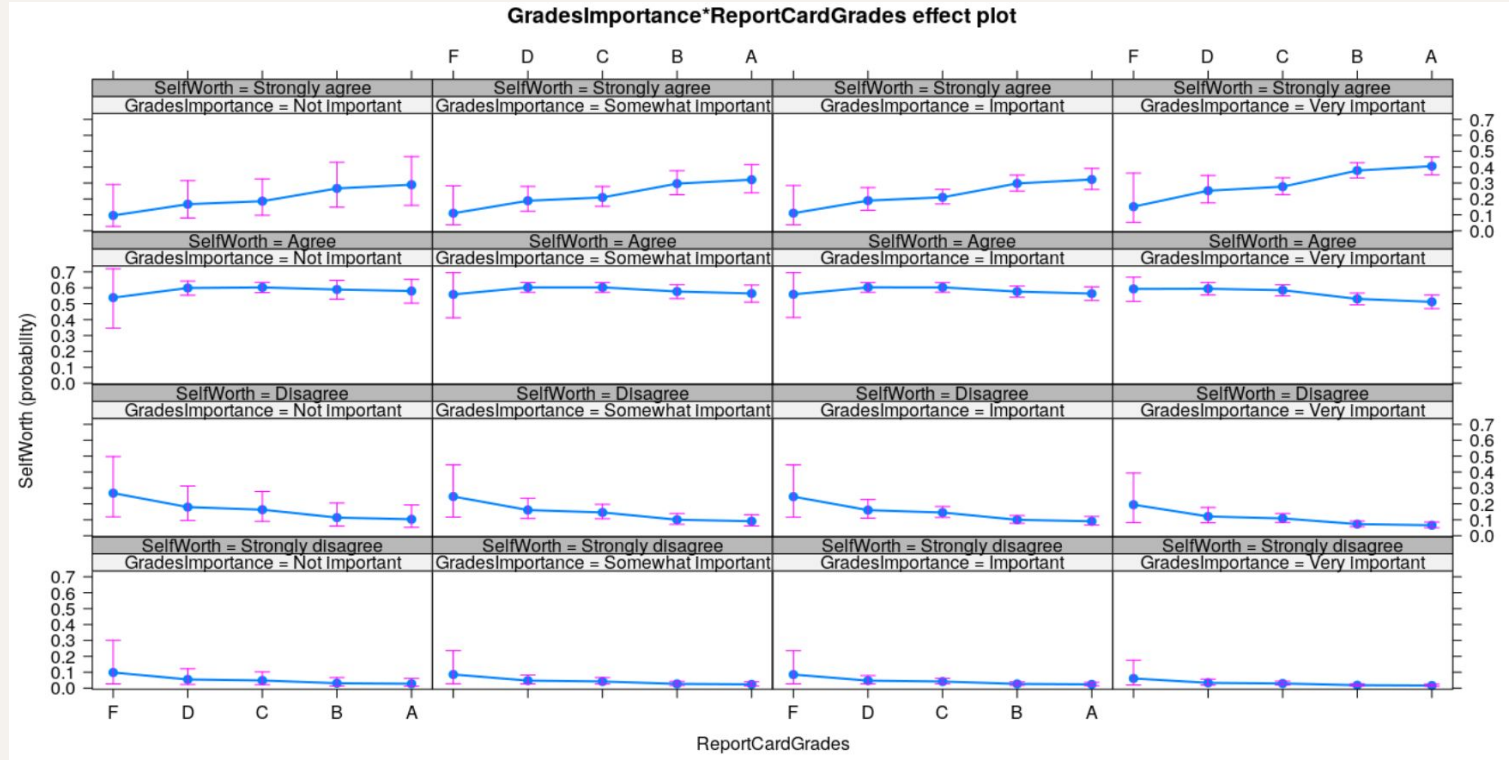
Conclusion

- There is not conclusive evidence to conclude whether importance placed on grades is associated with self-esteem among secondary school students.

- There is evidence to conclude that non-failing grades are associated with an increase in self-esteem among secondary school students; further increases in self-worth by letter grade were not statistically significant.

- In aiding prediction: external pressures > identities > frequency of deeper understanding requests

- Further research and analysis is needed.