Perfectionism, Goal Orientation, and Course Placement in Mathematics

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Background
- People who are considered to be perfectionistic strive for flawlessness and set exceptionally high standards for themselves, or perceive high standards set for them by others (Hewitt & Flett, 1995).
- Self-oriented perfectionism refers to one setting high personal standards and striving to achieve (Brown, Heimberg, Frost, Makris, Juster & Leung, 1999).
- Socially prescribed perfectionism results from individuals’ perceptions of external pressure, such as demands placed on them by parents and teachers (Klibert, Langhinrichsen-Röhl, & Saito, 2005).
- In this study, we focus on how perfectionism relates to academic motivation variables in mathematics, such as achievement goal orientation (mastery approach, performance approach, and performance avoidance), grit, and implicit theory of ability.

Study Objectives
1. To examine the psychometric properties of the Child and Adolescent Perfectionism Scale (CAPS)
2. To assess the relationship between students’ perfectionism and their academic motivation
3. To examine whether students’ level of perfectionism differs as a function of gender or mathematics ability level

Method
Participants
Participants were 1,834 students from four middle schools (Grade 6 = 752, Grade 7 = 798, Grade 8 = 284) located in the southeastern U.S. Students reported their ethnicity as White (996), African American (533), Hispanic (172), Asian/Asian American (40), and Other (73).

Measures
Participants completed a survey measuring perfectionism levels, achievement goal orientation, grit, and implicit theory of ability. All items used a 6-point Likert-type response scale.

Perfectionism
- Perfectionism was measured using the 22-item CAPS (e.g., “Even when I pass, I feel that I have failed if I didn’t get one of the highest grades in the class.”) from Flett and Hewitt’s (2000) scale.

Other Motivation Constructs
- Achievement goal orientation was measured using the 12-item Patterns of Adaptive Learning Scale (Midgley et al., 2000; e.g., “I do my math work because I want the teacher to think I am a good student.”).
- Implicit theory of ability was measured using a 7-item scale adapted from Dweck (1989) for the area of mathematics (e.g., “You can’t change how good you are at math, no matter how hard you try.”).
- Grit was assessed with a 10-item scale from the Values in Action Inventory of Strengths scale created by Peterson and Seligman (2001) (e.g., “If a task is hard, I give up easily.”).

Analyses
- We used exploratory factor analysis to examine the dimensions of the CAPS.
- Pearson’s correlation coefficients were used to examine the relationships between perfectionism and motivation constructs.
- Gender differences were examined by conducting an independent samples t test.
- Analysis of variance was used to examine differences in perfectionism by course placement (i.e., ability level) in mathematics.

Table 1: Correlations for Variables of Interest

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<td>3. Mastery Approach</td>
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<td>4. Performance Approach</td>
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<td>6. Grit</td>
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Note: * p < .01.

Results

Key Findings
- The Child and Adolescent Perfectionism Scale was found to have two dimensions: self-oriented perfectionism and socially prescribed perfectionism.
- Self-oriented perfectionism was positively correlated with all three goal orientation types.
- Socially prescribed perfectionism was positively correlated with the performance goal orientation types.
- Grit was positively correlated with self-oriented perfectionism, and negatively correlated with socially prescribed perfectionism.
- Implicit theory of ability in mathematics was negatively related to socially prescribed perfectionism, suggesting that those who feel pressure from others to be perfect hold a more fixed view of mathematics ability.
- There were no significant gender or ability-level differences in perfectionism.

Conclusion and Implications
- Self-oriented perfectionists appear to hold multiple goal orientations toward their work. They approach work because they enjoy learning and want to demonstrate their competence to others, but they also want to avoid looking unintelligent in front of their teachers and peers.
- Not surprisingly, socially prescribed perfectionists are concerned with their performance in front of others. They engage in academic work to demonstrate their abilities and to avoid appearing incompetent.
- Students who strive to meet self-imposed expectations also persist in their academic work. On the other hand, the more students focus on meeting external demands, the lower their persistence. Minimizing external pressures on students, while encouraging personal motivation, could encourage students to sustain their efforts in school.
- Students whose perfectionism is socially prescribed tend to view one’s mathematics ability as fixed and not malleable. Such students are less likely to believe that hard work will make them smarter and might be less likely to put forth extra effort in school.
- Gender differences and course difficulty do not appear to be related to students’ levels of perfectionism.
- Both girls and boys from both lower and higher-level classes are equally susceptible to the positive and negative aspects of perfectionism.
- Future studies might examine whether individuals from other groups report different levels of perfectionism. For example, examining perfectionism among students from different economic backgrounds. This could reveal whether parents’ income levels relate to the pressures students experience both from themselves and from others.

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References

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