

An Examination of Grit and Self-efficacy in the Context of Demographics and School Involvement: Lessons for Small Rural Schools

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Introduction

Small, rural schools in Texas are unique learning environments that face unique challenges. Rural schools are often short-staffed, often classified as socio-economically disadvantaged, and serve an underrepresented population. Rural students are an important population who constitute a significant makeup of Texas; thus, understanding and providing support can positively impact their success in high school and post-high school endeavors. In the 2018-2019 school year, rural public schools accounted for more than half of schools in 12 states, Vermont (55%) and Maine (54%), with 18 other states accounting for 30-49% of the student population (Pankovits, 2023). To effectively support this unique student population, educators and policymakers must understand the specific needs of rural learners and implement strategies that foster long-term success and social emotional learning (SEL). Weissberg and Cascarino (2013) stated that social-emotional learning is one way to understand a student's needs personally, academically, and post-high school graduation. SEL is broadly defined as the process through which one acquires and effectively applies the knowledge, attitudes, and skills necessary to manage their emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions (Weissberg & Cascarino, 2013).

Conceptual Framework

The theoretical framework for this study was underpinned by the Social Cognitive Theory of Albert Bandura (2001). An examination of student success requires recognition of the many factors that influence student success, including personal factors such as self-efficacy and grit, environmental factors such as the size of the school, the type of teacher, the climate of the classroom, school-based factors such as participation in extra-curricular activities, and out-of-school factors such as family economics. This study examined the interplay among these factors.

Methods

The purpose was to investigate the relationship of demographics, adverse educational factors, school involvement, grit, and self-efficacy to academic performance. The research design was a quantitative correlational design. Steps included: (a) creating a data collection instrument based on Panorama Education (Panoramic Education, 2015) to measure grit and self-efficacy, (b) administering the instrument to students through school learning management system, following approved IRB protocol, (c) obtaining de-identified data from school, including demographics, adverse educational factors of students, extracurricular involvement, and grade point averages, and (d) analyzing data using SPSS software. Data were received for 245 students enrolled in grades 9 through 12 at the rural high school during the 2023-2024 school year. Eight-six students (35.1% of the total of 245 students in high school) completed the self-efficacy and grit instruments.

Results

We investigated student success based on gender, ethnicity, economic status, adverse educational factors, participation in sports or other extracurricular activities, and, finally, social-

emotional learning factors of self-efficacy and grit. We theorized that each of the factors affects (is related to) student success (academic performance) as measured by students' grade point averages (GPAs). A matrix of all correlation coefficients for the pairs of variables (11 variables, yielding 55 correlation coefficients) was generated which allowed understanding of the interplay among characteristics. The positive correlation found to exist for students who participate in sports and grit suggests that students who participate in sports are more likely to possess higher levels of self-efficacy and grit, which is consistent with research showing that athletics can foster perseverance and goal-setting behaviors (Nothnagle & Knoester, 2022). We used stepwise, multiple regression to predict GPAs. In the final step of the regression analysis, self-efficacy and grit were added to the model. The full model explained 63.7% of the variance.

The addition of self-efficacy and grit resulted in improvement of the prediction equation. However, neither self-efficacy nor grit was a statistically significant predictor individually. When predicting the academic success of a student in a rural high school, sex and economic disadvantage significantly impact GPA. Additionally, the presence of adverse educational factors was a strong predictor of lower academic performance. This suggests that students who are male, economically disadvantaged, face one or more adverse educational circumstances, and who have lower self-efficacy and grit are more likely to struggle academically. These findings echo broader research highlighting the need to target support toward students with intersecting risk factors (Martins, 2024; French et al., 2014). These results offer important implications for educators. Recognizing predictive indicators such as sex, economic hardship, and educational adversity can inform the development of early intervention strategies and targeted academic support services.

Conclusions/Implications

Duckworth and Quinn (2009) explain that further understanding of the domain of specificity of grit is needed. Moreover, as Crede et al. (2017) emphasized, although grit researchers have helped clarify its role in predicting success, it may be more effective for schools to prioritize interventions and resources on variables that have stronger and more actionable relationships with academic performance. Implications of the research include further understanding of rural high school students. Understanding this unique population of youth can provide evidence for state and national agencies to support growth in our workforce. Support for students, families, schools, and communities in rural areas with a focus on non-cognitive abilities is key to the success of the student and community. This support begins with a commitment to understanding the diverse experiences of rural learners.

While these research findings cannot be generalized to the larger population of schools and its students, we believe that local school leaders—administrators, counselors, teacher/researchers—should conduct action research such as this to inform themselves and their constituents (i.e., parents, community members, taxpayers) of the status of students and their levels of achievement. That is, we hope that this research—our methods/approaches, and our results will serve as a model for other schools to pursue similar research.

Finally, collectively, local school officials and stakeholders should use their findings within their school systems to improve instruction, encourage and foster the development of grit and self-efficacy, and ensure that the school system is working systematically and persistently to provide opportunities for student engagement and, ultimately, to improve student learning.

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