EDUCATIONAL EXPECTATIONS, SOCIAL NORMATIVE EXPECTATIONS, AND GRIT IN AN URBAN MIDDLE SCHOOL

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ARIELLE LYNN VERDESCO

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APPROVED: _____
Maurice Elias, Ph.D. (Chair)

_____
Linda Reddy, Ph.D.

DEAN: _____
Stanley Messer, Ph.D.

Abstract

In urban, underfunded school districts, risk factors are present that impact the opportunities available for students to learn and succeed academically. It is imperative to explore factors associated with educational attainment in an effort to influence program development and ultimately reduce the achievement gap by creating opportunities for all students to succeed. Previous research has identified student expectations as a major predictor associated with higher levels of educational attainment. This study sought to develop a better understanding of the relationship between students' personal expectations and social normative expectations, which are social and peer norms about educational success that are embedded within a particular school system. In looking at this relationship, end-of-year English and Math grades and levels of grit, one's perseverance and passion for long-term goals, were considered as relevant factors. The predominantly Latino (90.82%) sample, $N = 1{,}166$, included 6th through 8th grade students from an urban middle school in New Jersey. Results of this study reveal that students with high personal expectations received significantly higher grades in Language Arts (F (1, 1164) = 83.237, $p < .001$) and Mathematics (F (1, 1164) = 122.638, $p < .001$) than students with low personal expectations. A matrix was developed to demonstrate the interaction between personal and social normative expectations. Despite the risk factors evident in this population, the majority of students (55.31%) rated themselves as having high personal expectations and high social normative expectations. Additionally, students who rated themselves as having high personal and social normative expectations tended to have higher levels of grit (F(1, 1162) = 4.05, $p < .05$). Several explanations have been provided to understand students' positive ratings, including the possible impact of a positive school climate program. Limitations regarding the current sample and the measures are addressed. Finally, implications for practice are discussed

to enhance school psychologists' understanding of these factors and promote evidence-based school-wide programming which will positively impact student achievement.

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Introduction

School psychologists are inherently in a powerful position to make positive changes in school systems and students' lives. Most school psychologists are actually embedded within a system where people spend a majority of their childhood and adolescence learning and developing. Therefore, as scientists and practitioners, school psychologists should be critical consumers of literature to design effective interventions for school personnel and students, with the ultimate goal of creating a safe environment for all children to learn. Unfortunately, financial and systemic factors often impact the opportunities available for students to learn and succeed academically in urban, underfunded school districts. For example, schools that are underfunded often have high student-faculty ratios, worse student-teacher relationships, and fewer tangible resources, which result in a more stressful learning environment (Eamon, 2005). Socioeconomic status (SES), the combined measure of parents' educational attainment, occupational status, and income, is a reliable indicator of educational achievement; children considered to be from low SES families tend to perform significantly worse than children from high SES families (Alexander, Entwisle, & Horsey, 1997; Hochschild, 2003). Economically disadvantaged youth also have significantly lower rates of high school completion and college attendance than more affluent youth (Ou & Reynolds, 2008). In addition, White students score consistently higher on reading and math standardized tests than their Black and Hispanic peers (Taylor & Graham, 2007). These disparities between groups of students in academic performance are known as the *achievement gap*.

Though the achievement gap is a widely known problem that plagues America's school systems, efforts to reduce this gap have been largely unsuccessful. Researchers argue that these efforts tend to focus on blaming minority students for perceived individual and cultural deficits residing in them, their families, and their communities (Bryan, 2005; Herbert, 1999). The No Child Left Behind Act (NCLB, 2001) was developed to "ensure that all children have fair, equal, and significant opportunity to obtain a high-quality education and reach, at minimum, proficiency on challenging State academic achievement standards and state academic assessments" (Sec. 1001. Statement of Purpose). However, since the institution of NCLB, a great deal of research has shown that there has not been a significant reduction in the achievement gap (Neal & Schanzenbach, 2010).

Many social, cultural, and political forces interact in urban schools, forcing minority students to face complex and seemingly insurmountable barriers to student achievement (Bryan, 2005; Herbert, 1999). This problem becomes exacerbated when considering evidence that suggests educational attainment is associated with many indicators of adult wellbeing, including physical and mental health (Ou & Reynolds, 2008). School psychologists are uniquely positioned to identify and implement strategies that can reduce the achievement gap by promoting academic achievement in underserved youth. In an attempt to address this urgent problem, it is necessary to explore factors associated with educational attainment. As part of the Chicago Longitudinal Study, Ou and Reynolds (2008) explored a comprehensive set of predictors of high school completion for 1,500 minority students in high-poverty areas of Chicago. They found that the two major predictors associated with higher levels of educational attainment are youth expectations of educational attainment and attendance in selective magnet high schools. Several other studies add support to the association between students' positive

educational expectations and increased educational attainment (Ekstrom, Goertz, Pollack, & Rock, 1986; Kim & Sherraden, 2011; Sandefur, Meier, & Campbell, 2006). This paper serves to increase our understanding of students' educational expectations, along with other relevant factors that could influence educational attainment for students attending an under-resourced school.

Educational Expectations

Students who have optimistic expectations about their educational attainment tend to achieve in accordance with those expectations, as they perceive that they have the potential to do so (Losel & Farrington, 2012). It is important to differentiate between students' expectations and their aspirations. While many students may *aspire* to graduate from high school and attend college, they might not *expect* that they will actually accomplish their goals. The gap between these two concepts is more apparent in minority and low-income children. Elliot (2008) explored this gap by studying the effects of children's college accounts as a way to lessen the gap between aspirations and expectations, because the financing of college is likely a barrier preventing children from having positive expectations. Elliot found that among disadvantaged children, 90% aspire to attend college, whereas only 54% actually expect to attend college. This gap is 29 percentage points larger than the gap found between upper-class children's aspirations and expectations. Several factors, including current academic achievements, parental educational attainment and income, parental engagement, and neighborhood segregation, have been linked to educational aspirations (Kao & Tienda, 1998; Mau, 1995). The focus of this paper, however, is on *educational expectations*, which is being defined as *the level of attainment in school that the student perceives he/she is actually going to achieve.*

A substantial body of evidence supports the importance of students' positive educational expectations as a protective factor leading to educational attainment and success. Ou and Reynolds (2008) provide evidence that youth educational expectations by age 15 are correlated with higher educational attainment. Additionally, Mello (2008) found that student expectations of achievement at age 14 were predictive of actual achievement at age 26. John Hattie (2008) synthesized over 800 meta-analyses related to student achievement in an attempt to determine what works best in schools. He discovered that the factor with the largest influence on student achievement was self-reported grades, which he later termed *student expectations*. Hattie's results revealed that students tend to be accurate predictors of their own performance and success (Hattie, 2012). Kim and Sherraden (2011) examined a sample of 632 9th and 10th grade students, and found that early student expectations were predictive of high school completion and college attendance. They also found that the relationship between students' financial assets and their educational attainment was mediated by their educational expectations. Finally, Trusty (2000) found that 76% of students with high educational expectations and low achievement in grade eight still had high expectations two years after high school.

Students' educational expectations interact with other factors, such as cognitive ability and parent expectations, in predicting actual educational attainment (Ganzach, 2010). Hao and Bonstead-Bruns (1998) found that high levels of parent-child interactions increase both parents' and children's expectations, which encourages achievement. Youths' gender is also related to educational expectations. A study of urban, low-income African American students found that African American males expressed lower educational expectations than females, which was mediated by parental expectations (Wood, Kaplan, & McLoyd, 2007). Trusty (2000) examined the effects of demographic, family, and parenting variables on educational expectations, and

found that socioeconomic status was most strongly linked to educational expectations. Though it may be impossible to change a student's socioeconomic status, some school systems focus on increasing educational expectations in other ways.

A handful of schools in disadvantaged areas have benefited from systemic changes, which have markedly improved student outcomes. The Center for Public Education (2005) investigated the research on successful schools serving high-poverty populations and identified 10 factors that were consistent amongst high-performing, high-poverty schools. Of those factors, they recognized a *culture of high expectations* as a fundamental building block consisting of high expectations shared by teachers, staff, and students. This culture incorporates the belief that all children can achieve and succeed academically (The Center for Public Education, 2005). In addition, some private and charter schools emphasize positive educational expectations as a fundamental value to promote learning and success. For example, KIPP Public Charter schools, which serve students from minority, low-income families, focus on creating school environments with high academic expectations and positive school climates. KIPP schools pride themselves on outstanding academic success, as the majority of their students entered 5th grade below-grade-level and completed 8th grade above-grade-level (KIPP Report Card, 2013).

Social Normative Expectations

Many high-poverty schools are not equipped with the necessary resources to create a culture of high expectations. For students in these low-income public school systems, realistic expectations consist of poor academic achievement and a genuine possibility of not graduating from high school. For instance, research has found that students who are eligible for Free and Reduced Lunch, and therefore considered socioeconomically disadvantaged due to a familial income that is at or below 185% of the federal poverty level, achieve significantly lower than

peers who are not eligible (Hemphill & Vanneman, 2011; United States Department of Agriculture, 2014). Additionally, students from low socioeconomic backgrounds are significantly less likely to graduate high school, which may lead to unfavorable life outcomes (Boznick, Alexander, Entwisle, Dauber & Kerr, 2010). Harsh, albeit realistic, negative expectations can be inferred from the disadvantaged environment surrounding these students, which is an imperative factor to consider.

Social normative expectations are social and peer norms about educational success that are embedded within a particular school system. Social norms are very powerful in shaping behavior, as adolescents tend to behave in accordance with social norms more than their own personal best interests (Siu, Shek, & Law, 2012). Research has provided ample evidence to suggest that peers contribute to children and adolescents' development in many ways (Rubin, Bukowski, & Parker, 2006). Furthermore, the process of developing characteristics of peers is well established (Bukowski, Brendgen, & Vitaro, 2007). Goodenow and Grady (1993) investigated the relationship between sense of school belonging, perceptions of peers' academic values, and academic motivation with a sample of 301 students in two urban middle schools. They found school belonging to be significantly associated with academic motivation. Additionally, they found that school belonging was highly correlated with expectancy for success among Hispanic students, more so than African-American students (Goodenow & Grady, 1993). According to Natriello and McDill (1986), peer expectations and standards influence individual effort and achievement in school.

Bell (2014) investigated social normative expectations in a sample of 367 students in an urban middle school. He surprisingly found an inverse relationship between social normative expectations and English grades, suggesting that students who have lower expectations of their

peers' future educational attainment score higher in English classes. Bell hypothesized that students who perform better academically (in English classes) might be better at perceiving the reality of the school environment. In addition, he suggested that students who have the ability to accurately interpret the success rates of their environment might be capable of distancing their perceptions of themselves from their social normative expectations (Bell, 2014). Goldstein, Davis-Kean, and Eccles (2005) proposed that students who perform well, despite low achievement norms and perceptions, might be less susceptible to conformity effects. This would imply that students who have low social normative expectations might have high personal educational expectations.

Grit

Students who have low social normative expectations and high personal educational expectations are accurately interpreting the success rates of their environment, but believe that they can persevere and attain educational goals despite environmental risks. *Grit* is a term that refers to one's perseverance and passion for long-term goals (Duckworth, Peterson, Matthews, & Kelly, 2007). Grit has been associated with academic success, even when risk factors such as low cognitive ability and low SES are involved. For example, Duckworth et al. (2007) found that individual differences in grit accounted for significant variance in success outcomes, more than that could be explained by cognitive ability, to which grit was not positively related. Duckworth also found that individuals with high levels of grit earned higher GPA's and attained higher levels of education (Duckworth et al., 2007). Psychological factors, such as grit, offer promising levers for raising the achievement of disadvantaged children (Dweck, Walton, & Cohen, 2011), in that they can be viewed as protective processes that develop educational resilience.

Grit as a protective process

Resilience, the ability to develop normally despite challenging life circumstances, involves the interaction between risk and protective processes, which alters the effect of an adverse condition/event (Olsson, et al., 2003; Rutter, 1987). While risk processes increase the probability of undesired outcomes, protective processes act to facilitate better outcomes in individuals (Ou & Reynolds, 2008). Adolescents spend up to a third of their waking hours in school (Rutter et al., 1979); therefore, the resilience framework is an increasingly powerful perspective for understanding and explaining educational success (Masten, 1987; Masten & Coatsworth, 1998; Wang, Haertel, & Walberg, 1998). *Educational resilience* is a term used to describe children who succeed academically in spite of risk processes that cause school achievement to be exceptionally challenging (Bryan, 2005; Wang, Haertel, & Walberg, 1998).

For the purpose of this study, grit is being viewed as a protective process that develops educational resilience. Students attending an under-resourced school are at-risk for developing low educational expectations, performing poorly in school, and not graduating, which could consequently result in negative life outcomes (e.g., unemployment). A realistic perception of the environment would lead these students to develop low social normative expectations. However, students who have high levels of grit and positive educational expectations might be able to succeed academically despite these risk processes. Therefore, it is important to study levels of grit in conjunction with educational expectations and social normative expectations.

Measuring grit

Grit has been examined by measuring students' *follow-through* in different activities, therefore capturing purposeful and continuous commitment toward a goal. For example, one study investigated high school students' level of grit by rating them on quantity of activities they

were involved in and the length of time they were involved in those activities. High school follow-through surpassed SAT scores and high school rank, as a better predictor of whether a student would attain a leadership position in college (Duckworth et al., 2007). Follow-through was also the greatest predictor of accomplishment in science, art, sports, communication, organization, and other endeavors (Duckworth et al., 2007; Willingham, 1985). These follow-through ratings were better predictors than ratings of overall high school extracurricular involvement (Duckworth et al., 2007).

In developing a scale to measure the construct of grit, Duckworth et al. (2007) attempted to capture the attitudes and behaviors characteristic of high-achieving individuals. In doing so, grit was found to have two dimensions: *consistency of interests over time* and *perseverance of effort* (Duckworth et al., 2007). Perseverance of effort emphasizes one's ability to sustain effort in the face of adversity, while consistency of interests focuses on one's ability to sustain effort in the absence of personal interests (e.g., unaware of alternative options). Von Culin, Tsukayama, and Duckworth (2014) explored the motivational correlates of these two dimensions and found that consistency of interests was strongly inversely associated with pursuing pleasure in immediately hedonically positive activities, whereas perseverance of effort was inversely associated with pursuing engagement in attention-absorbing activities. This result suggests that individual differences in grit exist, and that it may be important to consider these two factors independently, in addition to considering them conjointly as grit.

Though grit seems to be a factor with promising results for academic success, as conceptualized and assessed by Duckworth, it has yet to be investigated in a population similar to the one investigated in this study. When considering academic success and educational attainment, it seems likely that a student with low social normative expectations and high

personal expectations would maintain a high perseverance of effort, as this student's personal interest is likely an important contributor to his/her success. However, as there is no previous research to support a hypothesis that either factor will be more strongly associated with academic success, this study will view each factor in isolation and as a combined grit score, to account for the possibility that differences may or may not appear.

The Present Investigation

The present study captured the abovementioned characteristics in a sample of 1,166 students in an urban middle school in New Brunswick, NJ. The poor academic performance in this school has led to the label of a *priority* school, signifying that this middle school has been among the lowest-performing five percent of Title I schools in NJ for over three years (New Jersey Department of Education, 2014). The present study built upon the literature by enhancing our understanding of educational expectations, social normative expectations, and grit; expanding our knowledge of these concepts and tailoring our practices to integrate up-to-date research can ultimately result in a reduction in the achievement gap.

Expectations Matrix

The aforementioned research suggests that *social normative expectations* can be embedded within a particular school system, though not all students share the same social normative expectations of their peers. Additionally, students' *personal educational expectations* can accurately predict educational attainment. Though these concepts have been thoroughly researched in isolation, this study was the first to investigate them simultaneously. Accordingly, a framework was created in which each student fell into one of four sectors (see Appendix A). In accordance with this framework, students' personal educational expectations may be analogous with (e.g., positive and positive) or differing from (e.g., positive and negative) their social

normative expectations. This framework takes into consideration that both types of expectations fall somewhere on a continuum, rather than in true dichotomies, which is represented by arrows in Appendix A. However, it was necessary to dichotomize the expectation variables based on predetermined cutoffs to demonstrate the nature of the expectations matrix, which was developed based on research and theory. The four typologies represent students that might succeed at varying levels, in accordance with their personal and social normative expectations. It was expected that students who have high personal educational expectations, regardless of their social normative expectations, would have a higher likelihood for academic success than students who have low personal educational expectations. Examples are provided of students that would fall into each of the four sectors in an under-resourced school:

1. High Social Normative Expectations/Low Personal Educational Expectations: This student perceives that all of his peers are going to succeed, but doubts that he is capable of doing well in school. This student has an unrealistic perception of his environment, which may cause him to view his academic struggles as an internal deficit.
2. Low Social Normative Expectations/Low Personal Educational Expectations: This student perceives that she is not going to succeed academically due to an environment that does not support academic growth. She does not expect her peers to graduate from high school, and she does not believe that she is capable of prospering, either.
3. High Social Normative Expectations/High Personal Educational Expectations: This student expects that he will succeed. He has high expectations for his peer group and is motivated to meet those expectations for himself as well.
4. Low Social Normative Expectations/High Personal Educational Expectations: This

student has negative expectations of her peers' educational attainment based on the apparent realities that she sees around her. She understands that many of her peers might not graduate high school or attend college. However, she sets high expectations for herself and is willing to work hard to achieve her personal goals.

Research Questions

The purpose of this study was to answer the following research questions that pertain to the literature review and discussion above. Data were analyzed looking at social normative expectations, grit, personal expectations, and the interaction of grit and personal expectations predicting academic success.

I. **What is the relationship between students' educational expectations and their perceptions of the social normative expectations?**

Overall, it was expected that these two variables would have a moderate positive correlation. However, this does not adequately capture the nature of the relationship of these variables across individuals. It was hypothesized that the results of this study would support the aforementioned expectations framework. As such, students would fall into each of the four sectors in Appendix A. It was predicted that the fewest students would fall into the fourth category, with low social normative expectations and high personal expectations, as it was expected that students in this category may need protective factors such as the personality characteristic of grit. Additionally, due to the characteristics of the school and the research on under-resourced schools, it was predicted that the largest percentage of students would fall into the second category, with low social normative expectations and low personal expectations.

II. **Will students with high personal educational expectations have higher grades than students with low personal educational expectations?**

Based on previous research, it was hypothesized that students with high personal educational expectations would have higher grades than students with low personal educational expectations, regardless of social normative expectations.

III. **Where will students' grades fall on the expectations matrix?**

It was predicted that students with the highest grades would fall into the third sector of the expectations matrix, with high personal and high social normative expectations. It was also expected that students with the lowest grades would fall into the second sector of the expectations matrix, with low personal and low social normative expectations.

IV. **Which sector on the expectations matrix does grit correlate with most strongly?**

It was hypothesized that students with high levels of grit would have low social normative expectations and high personal educational expectations. These students need to overcome the perceived risk processes and pursue their personal goals to succeed academically. Grit is being viewed as a moderator in which the relative level of grit influences the relationship of personal and social normative expectations and academic performance. Additionally, it was expected that the two facets of grit (consistency of interests over time and perseverance of effort) may interact differently with the other variables, such that perseverance of effort would be more strongly correlated with the fourth category of the expectations matrix due to the emphasis on sustaining effort in the face of adversity.

Method

Data used in this study were obtained from the *Transforming New Brunswick Middle School into a School of Character and Excellence Project*. At the time of the study, New Brunswick Middle School (NBMS) was labeled as a priority school, which means that it has been identified among the lowest-performing five percent of Title I schools in the state over the past three years (New Jersey Department of Education, 2014). The *Transforming NBMS into a School of Character and Excellence Project* was developed to convert NBMS into a school of character with a positive, respectful climate to promote academic, behavior and life success. This project began in 2012-2013, and adheres to a 3-year timeline adopted from Rutgers University's Social-Emotional Learning Lab, which facilitates social-emotional learning initiatives to build local educational resources for improving social-emotional conditions in low performing school districts. Faculty from NBMS and graduate students from the Social-Emotional Lab at Rutgers University have been in collaboration to conduct a needs assessment, develop interventions, and monitor progress over time.

Participants

The sample in the present study is comprised of 1,166 students from NBMS in grades 6 through 8. The sample consists of 96.52% of the total population of students from NBMS (N = 1208). Students were included in the data set if they received Language Arts and Mathematics grades for two or more marking periods and completed at least 75% of all surveys under investigation. The sample is 51.54% male (n = 601). The majority of the student sample is Hispanic (90.82%, n = 1059), with 8.32% of the remainder of the population identifying as Black (n = 97). Additionally, the majority of the sample qualified for Free Lunch (92.5%, n = 1,078), and an additional 3.9% qualified for Reduced Lunch (n = 45).

Procedures

As part of the *Transforming NBMS into a School of Character and Excellence Project*, data on students' perceptions of school climate and safety were collected during the 2014-2015 academic year. Students and their parents were informed that students had the opportunity to complete the survey during an extended homeroom period. Because the assessment was part of an ongoing school improvement effort, both parents and students were given an opportunity to "opt out" of the assessment, which, as noted earlier, almost no one chose to do. The Institutional Review Board at Rutgers University approved this study.

Measures

Academic achievement. End-of-year academic grades in Language Arts and Mathematics provided data on academic achievement. Academic grades were selected as an alternative to standardized test scores due to a transition to a new statewide, standardized test, and the challenges interpreting scores from a novel measure. Within a school system, student grades are often utilized to convey each student's level of performance and achievement, and grades tend to be a point of reference that students utilize to understand their academic performance in comparison to peers within that school setting. Additionally, research examining more than 80,000 university students has found high school grades to be a strong predictor of academic performance and success, even greater than standardized test scores for minority students (Geiser & Santelices, 2007; Hoffman & Lowitzki, 2005). Grades in Language Arts and Math are measured on a scale of 1 through 100, where 100 is the best possible score a student can achieve. Grades above 90 are considered an A, grades from 80 to 89 are considered a B, grades from 70 to 79 are considered a C, grades from 60 to 69 are considered a D, and grades below 60 are considered an F. Due to students transferring in and out of NBMS throughout the

year, students' academic grades were included if they completed at least two of the four semesters, and those grades were averaged together to compute their final grades.

Personal expectations. Students' personal educational expectations were measured through a rating scale developed by Ou and Reynolds (2008) as part of a study on educational attainment in the Chicago Public Schools. Students rated six items on a 5-point Likert Scale ranging from '(1) I strongly disagree' to '(5) I strongly agree', where higher scores suggested more positive ratings of educational expectations. Data from this survey were included in the study if it was at least 75% complete, in which case the mean of the student's responses throughout the completed portion of the survey was calculated and replaced all missing items. Reliability for this rating scale, which was assessed through a Cronbach's Alpha of the items in the current sample, was strong ($\alpha = .876$). The six items included the following:

(1) In the future, I will graduate high school.

(2) In the future, I will go to college.

(3) In the future, I will have a job that pays well.

(4) In the future, I will contribute meaningfully to our communities.

(5) In the future, I will have a happy family life.

(6) In the future, I will stay in good health most of the time.

Social normative expectations. As a measure of social normative expectations, students rated six items modified from Ou and Reynolds' (2008) study on educational attainment in the Chicago Public Schools. Perceptions of social normative expectations were measured by adapting items such as "I will graduate high school." to "Most students from this school will graduate high school." Participants rated the items on a 5-point Likert Scale ranging from 'I strongly disagree (1)' to 'I strongly agree (5)', where higher scores suggested more positive

ratings of social normative expectations (Bell, 2014). Data from this survey were included in the study if it was at least 75% complete, in which case the mean of the student's responses throughout the completed portion of the survey was calculated and replaced all missing items. Reliability for this rating scale, which was assessed through a Cronbach's Alpha of the items in the current sample, was strong ($\alpha = .874$). The six items included the following:

(1) In the future, most students from this school will graduate high school.

(2) In the future, most students in this school will go to college.

(3) In the future, most students in this school will have a job that pays well.

(4) In the future, most students in this school will contribute meaningfully to our communities.

(5) In the future, most students in this school will have a happy family life.

(6) In the future, most students in this school will stay in good health most of the time.

Grit. Grit was measured with the Short (8-item) Grit Scale, which was developed by Duckworth and Quinn (2009). This questionnaire is viewed as an economical measure of perseverance and passion for long-term goals (Duckworth & Quinn, 2009). Students rated statements on a 5-point Likert Scale ranging from 'Not like me at all' to 'Very much like me'. Data from this survey were included in the study if it was at least 75% complete, in which case the mean of the student's responses throughout the completed portion of the survey was calculated and replaced all missing items. Duckworth and Quinn (2009) provide evidence for the predictive validity, consensual validity, and test-retest stability of the Short Grit Scale. Internal consistency for the Short Grit Scale was found to be $\alpha = .77$ (Duckworth & Quinn, 2009). However, reliability for this rating scale was also assessed through a Cronbach's Alpha of the items in the current sample, and was found to be weak ($\alpha = .576$). The scale was then

divided into two subscales, Consistency of Interests (items 1, 3, 5, and 6) and Perseverance of Effort (items 2, 4, 7, and 8), which were derived from Duckworth, Peterson, Matthews, and Kelly (2007). Reliability for the subscales was slightly more promising (Consistency of Interests: $\alpha = .637$; Perseverance of Effort: $\alpha = .643$), contributing to the necessity of examining the subscales in isolation, but there are still some concerns about the stability of the measure. Both subscales have a strong correlation to the total Short Grit Scale (Consistency of Interests: $r = .752$; Perseverance of Effort: $r = .695$). The eight items included the following:

(1) New ideas and projects sometimes distract me from previous ones.

(2) Setbacks don't discourage me.

(3) I have been obsessed with a certain idea or project for a short time but later lost interest.

(4) I am a hard worker.

(5) I often set a goal but later choose to pursue a different one.

(6) I have difficulty maintaining my focus on projects that take more than a few months to complete.

(7) I finish whatever I begin.

(8) I am diligent.

Data Analysis

Several methods were used to understand the sample and examine the hypotheses. First, descriptive statistics were computed for all measures and sample characteristics (gender, grade level, and ethnicity). Second, Pearson Product Moment correlations were computed to assess relations between measures and groups. Pearson Product Moment correlations were also used to address the first hypothesis, to explore the relationship between educational expectations and

social normative expectations. It was necessary to dichotomize the personal and social normative expectations variables to appropriately analyze the expectations matrix, which was developed based on previous research and theory. Predetermined cutoffs for both of those measures were set at 18, which is the median possible score (min = 6, max = 30) to determine a high vs. low degree of expectation. For both measures, a score of 18 would suggest that a student could have responded in a neutral way on all items, suggesting that this is a logical point to separate high expectations from low expectations. To further explore the first hypothesis and better understand the expectations matrix, a Chi Square test of independence was conducted between the dichotomized variables of personal expectations and social normative expectations.

To address the second hypothesis, an ANOVA was used to determine if grades differ for students with low- or high- personal educational expectations. To address the third hypothesis, layered contingency tables were created to determine where high and low student grades would fall on the expectations matrix. Chi square tests were then used to statistically analyze the contingency tables, distinguishing high-performing students from low-performing students. Finally, a series of factorial ANOVAs were conducted to determine if social normative expectations and personal educational expectations, and their potential interaction, are related to level of grit, overall and for each subscale.

Results

Demographics

Descriptive statistics are presented in Table 1 and the demographic breakdowns can be viewed in Table 2. For the present sample, the mean final grades for Math and Language Arts were 76.17 (*SD* = 10.55) and 75.56 (*SD* = 9.30) respectively, indicating that the average student in this sample scored in the C range. Final grades differed significantly by gender. Females (*m*

= 78.02, *sd* = 8.90) performed significantly better than males (*m* = 73.25, *sd* = 9.07) in Language Arts (*t*(1164)= -9.06, *p* < .001). Females (*m* = 77.77, *sd* = 10.05) also performed significantly better than males (*m* = 74.66, *sd* = 10.78) in Mathematics (*t* (1164) = -5.10, *p* < .001). Final grades also differed significantly by grade level. In Language Arts, the mean final grade was 76.98 (*sd* = 9.70) for 6th grade students, 75.52 (*sd* = 9.13) for 7th grade students, and 74.04 (*sd* = 8.79) for 8th grade students (*F* (2, 1163) = 9.719, *p* < .001). In Mathematics, the mean final grade was 76.23 (*sd* = 10.01) for 6th grade students, 74.87 (*sd* = 10.54) for 7th grade students, and 77.50 (*sd* = 10.97) for 8th grade students (*F* (2, 1163) = 5.982, *p* = .003).

For the rating scales, qualitative descriptions were formulated based on the median possible score for each scale to determine a high vs. low degree of that variable, wherein a neutral score would suggest that a student could have responded in a neutral way on all items. The relative strength and weakness of a total score for each scale is depicted in Table 3.

Females scored significantly higher than males on their measures of personal expectations and grit. The present sample's mean score for personal expectations was 25.90 (*SD* = 4.62), with males receiving a mean score of 25.43 (*sd* = 4.83) and females receiving a mean score of 26.39 (*sd* = 4.35, *t*(1164)= -3.59, *p* < .001), all of which are in the Positive or Strongly Positive range. The present sample's mean score for grit was 26.04 (*SD* = 4.61), with males receiving a mean score of 25.58 (*sd* = 4.36) and females receiving a mean score of 26.53 (*sd* = 4.83, *t* (1164) = -3.52, *p* < .001), all of which are in the Neutral range. There were no significant gender differences for either of the grit subscales or for social normative expectations.

There were, however, differences in social normative expectations based on grade level, in which 6th grade students had a mean of 20.41 (*sd* = 5.53), 7th grade students had a mean of 19.22 (*sd* = 4.82), and 8th grade students had a mean of 18.51 (*sd* = 5.14, *F* (2, 1163) = 13.349, *p*

< .001), all of which are in the Neutral range. There were also significant differences between Hispanic and Black students for personal expectations and grit. Hispanic students (m = 25.92, sd = 4.55) scored significantly higher than Black students (m = 25.58, sd = 5.40) on the personal expectations scale (t(1154)= -.689, p < .01). Alternatively, Black students (m = 26.43, sd = 5.24) scored significantly higher than Hispanic students (m = 25.98, sd = 4.56) on the grit scale (t(1154)= .901, p < .05). Upon further examination, this difference in grit was only significant for the Perseverance of Effort subscale (t(1154)= .718, p < .01), and was not significant for the Consistency of Interests subscale. That said, the magnitude of these differences was very small. All other ethnic subgroups were insufficient to analyze.

Table 1

Descriptives

	Mean	*SD*	*Range*
Final Math Grade	76.17	10.55	43-99
Final Language Arts Grade	75.56	9.30	45-98
Social Normative Expectations	19.41	5.23	6-30
Personal Expectations	25.90	4.62	6-30
Grit	26.04	4.61	12-40
Consistency of Interests	11.52	3.32	4-20
Perseverance of Effort	14.52	3.04	2-20

Table 2

Differences in Descriptive Variables

	Final Math Grade		*Final Language Arts Grade*		*Social Normative Expectations*		*Personal Expectations*		*Total Grit*		*Consistency of Interests*		*Perseverance of Effort*	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Grade Level														
6th	**76.23***	**10.01**	**76.98***	**9.70**	**20.41***	**5.53**	**26.05**	**4.85**	**25.75**	**4.65**	**11.22***	**3.31**	**14.53**	**3.08**
7th	**74.87***	**10.54**	**75.52***	**9.13**	**19.22***	**4.82**	**25.80**	**4.18**	**25.93**	**4.40**	**11.47***	**3.27**	**14.47**	**3.01**
8th	**77.50***	**10.97**	**74.04***	**8.79**	**18.51***	**5.14**	**25.83**	**4.82**	**26.47**	**4.78**	**11.91***	**3.35**	**14.56**	**3.05**
Gender														
Female	**77.77***	**10.05**	**78.02***	**8.90**	**19.49**	**5.50**	**26.39***	**4.35**	**26.53***	**4.83**	**11.81**	**3.40**	**14.72**	**2.99**
Male	**74.66***	**10.78**	**73.25***	**9.07**	**19.33**	**4.98**	**25.43***	**4.83**	**25.58***	**4.36**	**11.25**	**3.23**	**14.33**	**3.08**
Ethnicity														
Hispanic	**76.40**	**10.48**	**75.48**	**9.37**	**19.54**	**5.22**	**25.92***	**4.55**	**25.98***	**4.56**	**11.49**	**3.30**	**14.49***	**3.00**
Black	**73.58**	**10.94**	**76.13**	**8.52**	**18.07**	**5.26**	**25.58***	**5.40**	**26.43***	**5.24**	**11.70**	**3.63**	**14.73***	**3.55**

* Indicates significant differences between Means of a group for that variable

Table 3

Qualitative Descriptors of the Range of Total Scores for Rating Scales

Personal Expectations		Social Normative Expectations		Grit			
					Total	POE	COI
Strongly Negative	6 - 10	Strongly Negative	6 - 10	Strongly Negative	8 - 13	4 - 6	4 - 6
Negative	11 - 15	Negative	11 - 15	Negative	14 - 20	7 - 10	7 - 10
Neutral	16 - 20	Neutral	16 - 20	Neutral	21 - 27	11 - 13	11 - 13
Positive	21 - 25	Positive	21 - 25	Positive	28 - 34	14 - 17	14 - 17
Strongly Positive	26 - 30	Strongly Positive	26 - 30	Strongly Positive	35 - 40	18- 20	18 - 20

Correlations

Pearson correlations were conducted between social normative expectations, personal expectations, grit, Language Arts grades, and Mathematics grades to examine relationships between the variables. Though several of the following correlations yield statistically significant results, it is necessary to mention that the statistical significance of the correlation does not imply that the correlation is strong. Therefore, the strength of each correlation is also reported. Social normative expectations were significantly positively correlated with personal expectations, $r(1164) = .193$, $p < .001$. This suggests that more positive ratings of expectations for peers in the school were significantly related to more positive ratings of expectations for the self. However, only 3.7% of the variability in social normative expectations is accounted for by personal expectations, which is to say that the relationship is small and may lack applicable meaning. Social normative expectations were also significantly positively correlated with grit, $r(1164) = .134$, $p < .001$. This suggests that more positive ratings of expectations for peers in school were significantly related to more positive ratings of perceived perseverance and passion toward long term goals. However, only 1.7% of the variability in social normative expectations is accounted

for by grit. Social normative expectations were not correlated with Language Arts or Math grades. Language Arts grades were significantly positively correlated with Math grades, $r(1164) = .617$, $p < .001$. This suggests that higher academic grades in Language Arts were significantly related to higher academic grades in Math. The relationship between Language Arts grades and Math grades is large, as the two scores share 38% of their variance.

Personal expectations and grit scores were both significantly positively correlated to all of the factors investigated. Personal expectations were significantly positively correlated with grit, $r(1164) = .277$, $p < .001$. This suggests that more positive ratings of expectations for the self were significantly related to more positive ratings of perceived perseverance and passion toward long term goals. However, only 7.6% of the variability in personal expectations is accounted for by grit. Personal expectations were significantly positively correlated with Language Arts grades, $r(1164) = .259$, $p < .001$ accounting for 6.7% of the variance. This suggests that more positive ratings of expectations for the self were significantly but not strongly related to higher academic grades in Language Arts. A similar finding was noted with personal expectations being significantly positively correlated with Math grades, $r(1164), = .287$, $p < .001$, accounting for 8.2% of the variance.

Grit scores were significantly positively correlated with Language Arts grades, $r(1164) = .298$, $p < .001$. This suggests that more positive ratings of perseverance and passion toward long-term goals were significantly related to higher academic grades in Language Arts. There is a medium-sized relationship between grit and Language Arts grades, as they have 9% shared variance. Grit scores were significantly positively correlated with Math grades, $r(1164) = .340$, $p < .001$. This suggests that more positive ratings of perceived perseverance and passion toward long-term goals were significantly related to higher academic grades in Math. There is a

medium-sized relationship between grit and Math grades, as approximately 12% of the variability is shared between grit and Math grades.

A closer examination of the grit subscales demonstrated that Perseverance of Effort was significantly associated with Language Arts grades (r = .288), Math grades (r = .325), Personal Expectations (r = .451), Social Normative Expectations (r = .169), and total grit score (r = .695), whereas Consistency of Interests was only significantly correlated with Language Arts grades (r = .150), Math grades (r = .175), and total grit score (r = .752). Pearson correlations can be viewed in Table 4.

Table 4

Pearson Correlations of Variables Studied

	1	2	3	4	5	5a	5b
1. Language Arts Grades	--	--	--	--	--	--	--
2. Math Grades	.617*	--	--	--	--	--	--
3. Personal Expectations	.259*	.287*	--	--	--	--	--
4. Social Normative Expectations	-.038	.024	.193*	--	--	--	--
5. Grit	.298*	.340*	.277*	.134*	--	--	--
a. Consistency of Interests	.150*	.175*	-.028	.032	.752*	--	--
b. Perseverance of Effort	.288*	.325*	.451*	.169*	.695*	.050	--

Note. *p < .001

Research Question 1

A Pearson Product Moment correlation was used to examine the relationship between personal expectations and social normative expectations. It was hypothesized that a moderate positive correlation would be found between the two variables. As displayed in Table 4, personal expectations were significantly positively correlated with social normative expectations,

$r(1164) = .193$, $p < .001$. This suggests that more positive ratings of expectations for peers in the school were significantly related to more positive ratings of expectations for the self. Further examination of the correlation revealed that it is weak, as only 3.7% of the variability in social normative expectations is accounted for by personal expectations. Additionally, the personal expectations variable yielded a negatively skewed distribution, suggesting that students tended to respond in a positive fashion, which may have increased the likelihood that a negligible correlation would be found.

It was also hypothesized that this correlation would not adequately capture the nature of the relationship between personal expectations and social normative expectations. It was expected that the results of this study would support the aforementioned expectations framework, in which students would fall into one of the four sectors in Appendix A. The preliminary hypothesis expected the fewest students to fall in the fourth category, with low social normative expectations and high personal expectations, as students in that category may comprise the personality characteristic of grit. It was also predicted that the largest percentage of students would fall into the second category, with low social normative expectations and low personal expectations, due to the characteristics of the under-resourced school. To address these hypotheses, a Chi Square test of independence was conducted between the dichotomized variables of personal expectations and social normative expectations. The relationship between these variables was significant, X^2 (1, N = 1166) = 36.901, $p < .001$.

The percentages of students in each sector are located in Table 5. This table demonstrates that the majority of students (52.57%) fall into the third category, suggesting that most students in this population have high personal expectations and high social normative expectations, which contradicts the hypothesis that the largest percentage of students would have

low personal and low social normative expectations. This is likely a consequence of the skewed results for the personal expectations scale, as 90.31% of students fall into the category of having high personal expectations. Therefore, a large percentage of students also fall into the fourth category (37.74%), which was initially expected to contain the smallest percentage of students. Nonetheless, these results exhibit the relationship between students' personal expectations and social normative expectations, and highlight the importance of targeting the approximately 10% of students who rated themselves as having low personal expectations, especially as the dropout rate in the district's high school continues to increase.

Due to the skewed results for students' personal expectations, the cutoff for that scale was re-adjusted to more closely align with the actual distribution. The initial cutoff was set at 18, which was the median possible score (min = 6, max = 30) to determine a high vs. low degree of expectation. Due to the potential bias on the part of the respondents that could lead to a skewed distribution, the cutoff was adjusted to 24 to account for the possibility that all items were rated 1 point in a more positive direction than their true expectations. The percentages of students in each sector with the adjusted cutoff for personal expectations are located in Table 5a. This updated table demonstrates that 69.47% of the students had high personal expectations and 30.53% of the students had low personal expectations. The largest percentage of students (41.60%) still fall into the 3rd category with high personal expectations and high social normative expectations, while the smallest percentage of students (13.72%) fall into the 1st category with low personal expectations and high social normative expectations. Though the adjusted results more clearly represent the distribution of students in the expectations matrix, it must be interpreted with caution due to the limitations associated with adjusting scores. The adjusted personal expectations are used in all forthcoming analyses.

Table 5

Percentages of Students in Expectations Categories

		Personal Expectations		
		Low	**High**	**Total**
Social Normative Expectations	**High**	1. 2.74% n = 32	3. 52.57% n = 613	55.31% n = 645
	Low	2. 6.95% n = 81	4. 37.74% n = 440	44.69% n = 521
	Total	9.69% n = 113	90.31% n = 1,053	100% N = 1166

Table 5a

Adjusted Percentages of Students in Expectations Categories

		Adjusted Personal Expectations		
		Low	**High**	**Total**
Social Normative Expectations	**High**	1. 13.72% n = 160	3. 41.60% n = 485	55.32% n = 645
	Low	2. 16.81% n = 196	4. 27.87% n = 325	44.68% n = 521
	Total	30.53% n = 356	69.47% n = 810	100% N = 1166

Research Question 2

An analysis of variance (ANOVA) was used to determine if students with high personal expectations have higher grades than students with low personal expectations. Based on previous research, it was hypothesized that students with high personal expectations would have higher grades than students with low personal expectations, regardless of social normative

expectations. The results of the ANOVA revealed that students with high personal expectations received significantly higher grades in Language Arts than students with low personal expectations (F (1, 1164) = 83.237, p < .001). The results of the ANOVA also revealed that students with high personal expectations received significantly higher grades in Mathematics than students with low personal expectations (F (1, 1164) = 122.638, p < .001). See Figure 1 for a better understanding of these results, which confirm the hypothesis that students with high personal expectations receive higher grades than students with low personal expectations. When split by gender and by grade level, the results were still found to be significant in all cases. Table 6 displays these results.

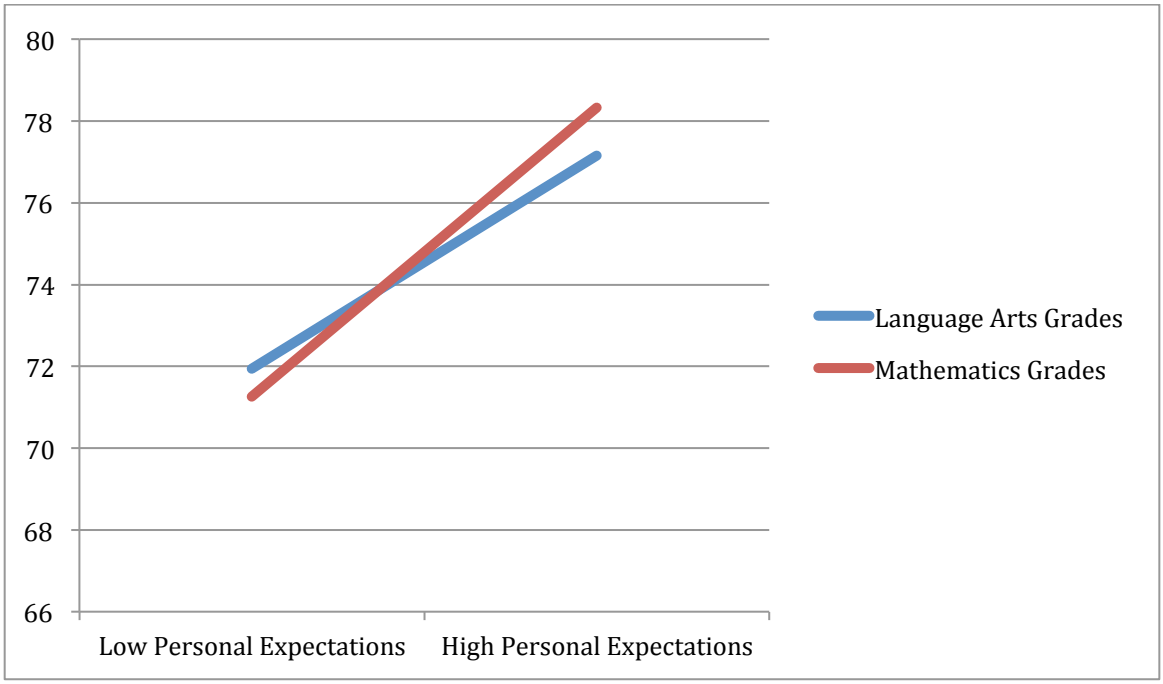

Figure 1. Personal Expectations and Academic Grades

Table 6

Summary of ANOVAs for Personal Expectations and Academic Grades

Personal Expectations by Academic Grades	***F***	***p***
Language Arts Grades	82.237	< .001
Math Grades	122.638	< .001
Split by Gender		
Females: Language Arts Grades	33.435	< .001
Females: Math Grades	61.144	< .001
Males: Language Arts Grades	38.412	< .001
Males: Math Grades	53.666	< .001
Split by Grade Level		
6th Grade: Language Arts Grades	31.089	< .001
6th Grade: Math Grades	30.808	< .001
7th Grade: Language Arts Grades	25.164	< .001
7th Grade: Math Grades	57.570	< .001
8th Grade: Language Arts Grades	26.035	< .001
8th Grade: Math Grades	35.295	< .001

Research Question 3

To determine where grades would fit within the expectations matrix, layered contingency tables were developed. It was predicted that students with high grades would fall into the third sector of the expectations matrix, with high personal and high social normative expectations. It was also hypothesized that students with low grades would fall into the second sector of the expectations matrix, with low personal and low social normative expectations. To determine which grades were considered "high" versus "low", the means were used for Language Arts and Mathematics final grades, with all grades above the mean considered "high" and all grades below the mean considered "low". The percentages of students with high versus low Language Arts grades in the expectations matrix are located in Table 7, and the percentages of students with high versus low Math grades in the expectation matrix are located in Table 8. These tables demonstrate that students with high personal expectations tended to have higher grades in both academic areas, whereas students with low personal expectations tended to have lower grades in both academic areas. As predicted, the largest percentage of students with "high" grades in both academic areas fell into the third sector, with high personal and high social normative expectations. However, the largest percentage of students with "low" grades also fell into the third sector, likely due to the largest percentage of students in general falling into that category.

To further analyze these results, two chi-square tests were conducted for each major subject area. For Language Arts, chi-square tests were performed for students with above-average and below-average performance separately. The chi-square test performed on students with above-average Language Arts grades revealed that no significant relationship was found between social normative and personal expectations, X^2 (1, N = 600) = 1.92, p =.166. Students who received high grades in Language Arts tended to have high personal expectations, as

evidenced in Table 7. The chi-square test performed on students with below-average Language Arts grades revealed a significant relationship between social normative and personal expectations, X^2 (1, N = 566) = 31.048, p < .001. Students with below-average Language Arts grades were somewhat evenly distributed throughout the four sectors with the exception of the majority of students falling into the category with high personal and high social normative expectations. For Mathematics, chi-square tests were performed for students with above-average and below-average performance separately. The chi-square test performed on students with above-average Math grades revealed a significant relationship between social normative and personal expectations, X^2 (1, N = 618) = 7.347, p = .007. Students who received high grades in Math tended to have high personal expectations, as evidenced in Table 8. The chi-square test performed on students with below-average Math grades revealed a significant relationship between social normative and personal expectations, X^2 (1, N = 548) = 16.999, p < .001. Students with below-average Math grades were somewhat evenly distributed throughout the four sectors.

Table 7

Language Arts (LA) Performance in Expectations Categories

		Adjusted Personal Expectations		
		Low	**High**	**Total**
Social Normative Expectations	**High**	1. Low LA: 8.58% (n = 100) High LA: 5.15% (n = 60)	3. Low LA: 19.21% (n = 224) High LA: 22.38% (n = 261)	55.32% n = 645
	Low	2. Low LA: 11.23% (n = 131) High LA: 5.57% (n = 65)	4. Low LA: 9.52% (n = 111) High LA: 18.35% (n = 214)	44.68% n = 521
	Total	30.53% n = 356	69.47% n = 810	100% N = 1166

Table 8

Mathematics (MA) Performance in Expectations Categories

		Adjusted Personal Expectations		
		Low	**High**	**Total**
Social Normative Expectations	**High**	1. Low MA: 9.01% (n = 105) High MA: 4.72% (n = 55)	3. Low MA: 17.07% (n = 199) High MA: 24.53% (n = 286)	55.32% n = 645
	Low	2. Low MA: 10.89% (n = 127) High MA: 5.92% (n = 69)	4. Low MA: 10.03% (n = 117) High MA: 17.84% (n = 208)	44.68% n = 521
	Total	30.53% n = 356	69.47% n = 810	100% N = 1166

Research Question 4

To determine if social normative expectations, personal expectations, and their potential interaction is related to level of grit, overall and for each subscale, a series of factorial ANOVAs were conducted. It was hypothesized that students with high levels of grit would have low social normative expectations and high personal expectations, as these students may need to overcome

perceived risk processes and pursue their personal goals to succeed academically. A two-way ANOVA was conducted on the independent variables of social normative expectations and personal expectations and the dependent variable of grit. This 2x2 ANOVA revealed a significant effect of social normative expectations $F(1, 1162) = 8.89$, $p < .01$. Students who scored higher on the social normative expectations scale received higher grit scores. There was also a significant main effect of personal expectations, $F(1, 1162) = 92.39$, $p < .001$. Students who scored higher on the personal expectations scale also received higher grit scores. There was a significant interaction between social normative expectations and personal expectations, $F(1, 1162) = 4.05$, $p < .05$. Students with high social normative expectations and high personal expectations tended to receive higher grit scores. Gender and grade level did not contribute meaningfully to these results. Table 9 portrays these results.

Table 9

Two-way ANOVA Summary Table for Total Grit Score

	SS	df	MS	*F*	Sig.
Social Normative Expectations	173.02	1	173.02	8.89	.003
Personal Expectations	1799.22	1	1799.22	92.39	.000
Social Normative x Personal	78.82	1	78.82	4.05	.044

To provide additional support and reduce the sensitivity of distribution concerns, chi-squared tests were conducted on students with high grit scores and students with low grit scores. The chi-square test performed on students with high grit scores revealed that no significant relationship was found between social normative and personal expectations, $X^2 (1, N = 483) = 1.988$, $p = .159$. The chi-square test performed on students with low grit scores revealed a

significant relationship between social normative and personal expectations, X^2 (1, N = 683) = 14.646, p < .001. Table 10 displays these results.

Table 10

Grit Scores in Expectations Categories

		Adjusted Personal Expectations		
		Low	**High**	**Total**
Social Normative Expectations	**High**	1. Low Grit: 9.95% (n = 116) High Grit: 3.77% (n = 44)	3. Low Grit: 19.98% (n = 233) High Grit: 21.61% (n = 252)	55.31% n = 645
	Low	2. Low Grit: 13.64% (n = 159) High Grit: 3.17% (n = 37)	4. Low Grit: 15.01% (n = 175) High Grit: 12.86% (n = 150)	44.68% n = 521
	Total	30.53% n = 356	69.46% n = 810	100% N = 1166

A two-way ANOVA was conducted on social normative expectations and personal expectations and their effect on *perseverance of effort*, a subscale of grit. A significant main effect was found for social normative expectations, F(1, 1162) = 10.92, p < .01; A significant main effect was found for personal expectations, F(1, 1162) = 232.31, p < .001. There was also a significant interaction between social normative expectations and personal expectations, F(1, 1162) = 6.33, p < .05. Therefore, students with high social normative expectations and high personal expectations tended to receive higher scores on the *perseverance of effort* grit subscale.

Contrasting results were found on the two-way ANOVA of social normative expectations and personal expectations and their effect on *consistency of interests over time*, the other subscale of grit. No significant main effects were found for social normative expectations, F(1, 1162) = 1.49, p > .05; No significant main effects were found for personal expectations, F(1, 1162) = .02, p > .05. There was no significant interaction between social normative expectations

and personal expectations. Therefore, it appears that high social normative expectations, high personal expectations, and their interaction are significantly related to *perseverance of effort*, but are not significantly related to *consistency of interests over time*.

To provide additional support and reduce the sensitivity of distribution concerns, chi-squared tests were conducted on students with high *perseverance of effort* scores and students with low *perseverance of effort* scores. The chi-square test performed on students with high *perseverance of effort* scores revealed that no significant relationship was found between social normative and personal expectations, X^2 (1, N = 588) = .016, p = .899. The chi-square test performed on students with low *perseverance of effort* scores revealed a significant relationship between social normative and personal expectations, X^2 (1, N = 578) = 18.796, p < .001. Table 11 displays these results, depicting that the differences in the low *perseverance of effort* groups across the four quadrants is smaller than the differences in the high *perseverance of effort groups*.

Table 11

Perseverance of Effort Scores in Expectations Categories

		Adjusted Personal Expectations		
		Low	**High**	**Total**
Social Normative Expectations	**High**	1. Low POE: 9.61% (n = 112) High POE: 4.12% (n = 48)	3. Low POE: 10.72% (n = 125) High POE: 26.59% (n = 310)	51.04% n = 595
	Low	2. Low POE: 14.24% (n = 166) High POE: 2.57% (n = 30)	4. Low POE: 15.01% (n = 175) High POE: 17.15% (n = 200)	48.97% n = 571
	Total	30.54% n = 356	69.47% n = 810	100% N = 1166

Discussion

The present study builds upon previous literature in an attempt to improve our understanding of educational expectations, social normative expectations, and grit. This investigation examined 1,166 students attending New Brunswick Middle School, an urban, low-performing school. Results complement previous literature such that students with high personal expectations received significantly higher grades in Language Arts and Mathematics than students with low personal expectations. A significant but weak positive correlation was found between personal expectations and social normative expectations. Though students fit into all four sectors of the expectations matrix, the majority of students unexpectedly rated themselves as having high personal expectations and high social normative expectations (52.57%). Those students who rated themselves as having high social normative expectations and high personal expectations tended to also have higher levels of grit. More specifically, the interaction between high personal expectations and high social normative expectations was significantly related to the perseverance of effort subscale of grit, such that the differences in the low perseverance of effort group across the four quadrants is smaller than the differences in the high perseverance of effort group. As evidenced in Table 11, high perseverance of effort seems to be linked to high personal expectations, regardless of social normative expectations. Broadening our knowledge of these concepts and altering our practices to incorporate up-to-date research may enhance the education system by providing all students with greater opportunities for success.

Comparison with Existing Literature

Previous literature shaped the development the four hypotheses analyzed in this study. First, it was expected that students' personal educational expectations and social normative expectations would have a moderate positive correlation, but would ultimately support the

expectations matrix in Appendix A. This expectations matrix was developed to complement Bell's (2014) finding that students who have the ability to accurately interpret the success rates of their environment might be capable of distancing their perceptions of themselves from their social normative expectations. Additionally, it was hypothesized that most students from the sample would fall into the second category with low personal and low social normative expectations, due to evidence that supports a strong, negative link between educational expectations and risk factors such as socioeconomic status (Trusty, 2000). Surprisingly, this study found that the largest percentage of students at NBMS rated themselves as having high personal and social normative expectations, despite the risk factors present in their environment.

It was also predicted that students with high personal educational expectations would have higher grades than students with low personal educational expectations. Previous literature has supported this notion, suggesting that students are accurate predictors of their own academic performance and achievement (Hattie, 2012, Losel & Farrington, 2012). The results of this investigation support this previous literature, as students with high personal expectations received significantly higher grades in Language Arts and Mathematics than students with low personal expectations.

This study expanded upon previous research in that it introduced the expectations matrix, with the hypothesis that students with the highest grades would fall into the third sector, such that they would also have high personal and high social normative expectations, and that students with low grades would fall into the second sector, such that they would have low personal and low social normative expectations. Due to the tendency for students in this sample to rate themselves as having high personal and high social normative expectations, most students with high grades and most students with low grades fell into the third sector. It is possible that this

may be a result of overconfidence. Hossain and Tsigaris (2015) examined students' expectations about their final grades and found that overconfidence was the norm, such that most students tended to be optimistic that they would receive high grades. Additionally, Garces-Ozanne and Sullivan (2014) found that even after students received more information about their performance as the school-year progressed, the majority of their college-aged sample still expected a high grade. However, Garces-Ozanne and Sullivan (2014) also found evidence suggesting that ethnicity and socioeconomic status may be correlated with student expectations. Interestingly, despite the risk factors evident in the present sample, students still seemed to demonstrate overconfidence, even with regard to their expectations for their peers.

Finally, it was hypothesized that students with high levels of grit would have low social normative expectations and high personal educational expectations, as these students need to overcome perceived risk processes and pursue their personal goals to succeed academically. Bell (2014) suggested that a realistic negative perception of future peer success could encourage some students to excel so as to not fit that expectation. Additionally, Von Culing, Tsukayama, and Duckworth (2014) found evidence in support of the two-factor theory of grit, which led to the prospect that perseverance of effort might be more strongly correlated with the fourth category of the expectations matrix due to its' emphasis on sustaining effort in the face of adversity. The results of this study, however, demonstrated that personal expectations, social normative expectations, and their interaction were significantly correlated for students based on level of perseverance of effort.

Explanation of Results

Findings from this investigation suggest that students attending New Brunswick Middle School had a tendency to rate themselves as having high personal and high social normative

expectations. This finding was unexpected due to the risk factors present in this population (e.g., low socioeconomic status), which research has consistently found relates to poor school performance and high dropout rates (Hochschild, 2003, Ou & Reynolds, 2008). However, several explanations may contribute to our understanding of these students' self-rated high expectations for themselves and their peers. First, the skewed results call into question the validity of the expectations measures. Other factors may have altered students' responses such that the results of the measures were not accurate measures of student expectations in the present sample. For instance, since the questionnaires were administered by the students' teachers, the students may have been under the impression that rating themselves in a positive fashion would contribute to the possibility of earning higher grades. Second, the skewed distribution of the expectations measured in this study may have been a result of overconfidence, suggesting that students had optimistic perceptions of their futures despite the reality of the environment.

Another explanation is that students may have responded in a positive fashion due to additional supports being in place for them, such as the *Transforming NBMS into a School of Character and Excellence Project*, which was developed to convert NBMS into a school of character with a positive, respectful climate to promote academic, behavior and life success. A positive school climate and positive expectations from teachers and staff may have contributed to students' positive personal and social normative expectations. To determine the likelihood of this impact, average social normative expectation scores from this study were compared to Bell's (2014) study, which also utilized data from NBMS but 2 years prior. While Bell's results demonstrated a Mean social normative score of 18.53 (SD = 5.61), this study found a Mean social normative score of 19.41 (SD = 5.23), suggesting some improvement in social normative expectations over the past two years at NBMS. Interestingly, while this upward trend remained

steady across gender and ethnicity, student grade level revealed a different outcome. In Bell's (2014) study, social normative expectation scores increased with grade level (7^{th} grade Mean = 18.40, 8^{th} grade Mean = 18.69). However, the results of this study demonstrate that students' social normative expectations declined for each grade level (6^{th} grade Mean = 20.41, 7^{th} grade Mean = 19.22, 8^{th} grade Mean = 18.51). While these differences do not necessarily elucidate the reason for the skewed student expectations, they do demonstrate that students entering NBMS have the highest social normative expectations, which may be a result of a more positive school climate.

Though the majority of students rated themselves as having high personal and high social normative expectations, there were students who fell into all four sectors of the expectations matrix, providing support for the importance of within-group differences. It would not be accurate to presume that all people within an entire school, population, or culture will hold the same characteristics, experiences, or beliefs. The expectations matrix accounts for variation within the sample's personal and social normative expectations. Through the expectations matrix, it is evident that the majority of students rated themselves as having high personal and high social normative expectations, but it is also important to note that those who fell in the other sectors of the matrix might have significant needs that may need to be addressed in a different way than their peers.

Within the expectations matrix, it was also found that perseverance of effort is associated with the third sector, such that students who have high personal and high social normative expectations scored higher on levels of perseverance of effort. Perseverance of effort is the subscale of grit that comprises the ability to sustain effort in the face of adversity. It was initially hypothesized that this characteristic would be more prominent in the fourth sector of the matrix,

as these students may have realistically low expectations of their peers, but have high personal expectations because they can persevere through the risk processes to achieve their goals. However, the results of the present study may suggest that perseverance of effort may be correlated with optimism. Students who have optimistic views of the future for themselves and their peers may be more likely to contain the characteristic that allows them to persevere in the face of adversity. Another plausible explanation for this result is the possibility that students rated themselves in an overly positive fashion on all of the measures, assuming that they had some understanding of which responses may be deemed socially desirable. However, this explanation does not account for the significant difference between the two subscales of grit, and therefore other possible explanations should not be dismissed.

Directions for Research

It was a limitation of this research that it took place in a single school with a relatively culturally-homogeneous population (90.82% Hispanic) and a history of poor academic performance. It will be important for future research to replicate the analyses and determine how the expectations matrix differs across different populations. For example, it is expected that the distribution within the expectations matrix may differ in a higher-achieving school. Replication of results with a similar population is also necessary to provide support for the reliability and validity of the constructs measured.

With regard to reliability and validity of the measures utilized in this research, it is important to note that there were two concerns. First, though Duckworth and Quinn (2009) found internal consistency to be $\alpha = .77$ for the Short Grit Scale, internal reliability was found to be weak for the current sample ($\alpha = .576$). To address this concern, the scale was divided into two subscales, Consistency of Interests and Perseverance of Effort, and reliability for the

subscales was slightly more promising (Consistency of Interests: $\alpha = .637$; Perseverance of Effort: $\alpha = .643$). However, future research should continue to examine the reliability of the Short Grit Scale, and should focus on the benefits and/or consequences of using the Grit subscales. Results for the present study can be attributed to the Perseverance of Effort subscale, even more so than the total Grit score. Second, there were some concerns about the validity of the expectations measures due to the negatively skewed results. It was also necessary to dichotomize the personal and social normative expectations variables to appropriately analyze the expectations matrix, which was developed based on previous research and theory. However, dichotomization may have negative consequences including loss of information about individual differences and loss of power (MacCallum, Zhang, Preacher, & Rucker, 2002). It is critical that future research is dedicated toward better understanding these scales due to the abundance of research supporting a link between student expectations and outcomes.

The main purpose of this research was to find support for the expectations matrix and to determine where student grades and grit fit within the matrix. Future research should focus on determining practical implications for identifying students in each quadrant, particularly for those students who have low social normative and low personal expectations. Additionally, several other factors will be important to consider if future researchers are utilizing the expectations matrix. For example, student motivation, school climate, cognitive abilities, and placement in special education are all relevant factors that should be considered. Future researchers should also consider the limitations of using student grades as a measure of success. A longitudinal research design could provide a better understanding of student outcomes over time in relation to their personal and social normative expectations. Graduation status or college attendance could be used to measure success and to understand the predictive power of student

expectations in middle school. It will also be important to continue collecting data on student expectations over time, as this information could be used to provide an explanation for the higher social normative expectations in comparison to Bell's (2014) results, which may provide evidence to expand upon school climate programming. Overall, it seems that replicating the current research in other schools and across different populations would be the next step in learning more about how these factors could be used to benefit our practices within schools.

Implications for Practice

The expectations matrix could be a useful tool to improve our understanding of how student expectations, grit, and other factors interact with student performance in a particular school. For instance, in New Brunswick Middle School, students' personal expectations and social normative expectations tend to be optimistic. This knowledge could be used to inform school-wide programming designed to reinforce high expectations and provide students with the resources needed to meet such expectations. Students could be learning about how their behavior and current school performance may contribute to the possibility of meeting/not meeting their expectations. Teachers can receive training on how to best work with students with high expectations in low-performing school districts. Additionally, students who were found to have low personal expectations could be targeted on a more individual level. School psychologists or school counselors can receive training on working with students with low expectations, and they may run groups or design programs to encourage those students to succeed. Parental involvement may also be critical.

Understanding the differences between student personal and social normative expectations and levels of grit across populations should contribute to the development of school-wide programming targeted to specific school populations. School-wide social-emotional

programming should not be the same in schools where students have different levels of personal and social normative expectations. While in some schools it may be necessary to focus on increasing student expectations, in other schools students may already have high expectations and the focus should be on developing an understanding of how to meet those expectations. Therefore, broadening our knowledge of these concepts across different populations and altering our practices may enhance the education system by providing all students with greater opportunities for success.

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Appendix A

Expectations Matrix