

Grit, Dispositions, and Successful Teacher Candidates: Is there a Relationship?

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Abstract: Many variables influence the success of a teacher candidate in a certification program. Using Duckworth's *12-Item Grit Scale*, this study sought to explore the relationship between the grittiness of teacher candidates and their dispositions, both prior to and during the initial stages of the COVID-19 pandemic. Although based on a small sample size, findings indicate that while grit is a key element to the long-term success of a preservice teacher, it is not the sole factor.

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Expectations for highly qualified K-12 teachers begin with the mastery of content knowledge and teaching pedagogy but extend to include the expectation of modeling a high standard for moral and ethical behavior. Teacher preparation programs charged with the monitoring and evaluating of preservice teachers' dispositions, which mirror the qualities and characteristics of moral and ethical educators, often find this difficult, as these more subjective and qualitative measures are harder to assess when compared to the content and pedagogy quantitative type knowledge. While many factors contribute to the success of undergraduate students, the role of grit may significantly impact the long-term performance of preservice teachers.

Grit refers to an individual's ability to stick with a task in the face of adversity (Duckworth et al., 2007). Individuals with higher levels of grit are more likely to stick with a task when it becomes challenging, while those with lower levels of grit are more likely to give up. Understanding the variables that influence one being able to successfully overcome challenges is important for teacher preparation programs as they support their preservice teachers.

This paper sought to explore the relationship, if any, of a preservice teacher's grittiness, dispositions, and success in their teacher preparation program. The following research questions were explored: 1) How gritty are education majors? 2) What relationship, if any, is there between grit and dispositions in a teacher candidate? 3) To what extent does grit influence the success of a teacher candidate during their Educator Preparation Program?

Dispositions and Teacher Preparation Programs

The goal of every teacher education program is to graduate highly qualified, effective educators who maintain longevity in their chosen career. This substantial outcome requires much more than a competent level of content knowledge and pedagogy. It also requires development and demonstration of specific teacher dispositions. The Council for Accreditation of Educator Preparation (CAEP) defines dispositions as "the habits of professional action and moral commitments that underlie an educator's performance" (Council for Accreditation of Educator Preparation, 2024). Teacher dispositions have been found to be highly correlated with positive outcomes for students including: higher academic adjustment, reduced problematic behaviors, student learning, motivation, and development (Notar et al., 2009). Similarly, dispositions have been established as a predictive value of preservice teachers' future success in the field (Bradley et al., 2020; Johnston et al., 2011).

State-level departments of education have also taken steps to require accredited teacher education programs to focus on teacher candidate dispositions under the umbrella of codes of conduct and ethical practices. Teacher educator programs across the country have committed substantial time and effort to identify specific desired dispositions. With no universally agreed upon list of specific and requisite teacher dispositions to adopt, institutions have turned to several paradigms developed by researchers to guide institutions in their selection of dispositions: contrasting teacher behavior from both teacher characteristics and teacher perceptions (Wasicsko, 2007);

distinguishing professional dispositions from moral dispositions (Diez, 2007); labeling dispositions as those that address character, caring, or an intellect in an ethics of rules (Sockett, 2006); and classifying dispositions as those that address personal virtues, educational virtues, or societal transformation (Misco & Shiveley, 2007).

Identifying dispositions— and even communicating that list to matriculating students – is not nearly enough, however, to ensure that teacher candidates understand what each disposition means, how it might be demonstrated in the college classroom and in the clinical field experience site, or why these particular dispositions are valued. To fully indoctrinate students into this culture of high expectations, students must be educated on the dispositional process as soon as they have entered into the teacher education program (Henninger & Ensign, 2020). Institutions must develop a clearly articulated plan for addressing dispositions within their teacher education program. Following introduction of the identified dispositions, each teacher candidate should acknowledge what the identified dispositions are, how they are defined, that they will be assessed, and that participation in reflective practices and feedback at key benchmarks within the program is required.

Fostering teacher candidates' self-awareness is essential to the dispositions process. Teacher candidates must also be aware that, if warranted, they will be required to participate in a cycle of self-improvement related to dispositional concerns, which, if they are unable to demonstrate appropriate and timely dispositional development, may result in dismissal from the teacher education program.

Despite on-going and preferably proactive assessment of dispositions, there will undoubtedly be dispositional concerns that arise with some teacher candidates. In

these cases, an assessment process embedded within a larger program that addresses dispositions allows teacher educators to track teacher candidates' dispositions (Bradley et al., 2020; Johnson et al., 2011). Thus, dispositions measurement is used for gatekeeping, enabling teacher educators to have pointed conversations about professional fit and dispositional expectations, and sometimes resulting in referral to a retention committee, remediation plans, and ultimately for some, dismissal from the program (Brewer et al., 2011). Through this sort of early warning system approach, teacher preparation programs adopt a growth mindset approach, instilling the belief that educators are lifelong learners who strive to grow and evolve in their teaching practices.

The Grit Theory

The influence of personality characteristics on the effectiveness of educators historically has been debated and linked to student outcomes. Yet, researchers have struggled to quantify and assess these relationships. These variables are difficult to assess and generalize due to the number of outside influences, the vast array of personality traits as well as the evolution of personality traits overtime. Grit emerged in the early 2000s, as a relatively stable personality trait which is predictive of the success of educators (Duckworth, et al., 2009; Robertson-Kraft & Duckworth, 2014). Grit is a personality trait which combines passion with perseverance. Coupled together, passion and perseverance to achieve long term goals, often leads to educational attainment. Individuals with higher levels of grit are more likely to persevere and accomplish their goals when met with obstacles (Derilo, 2019). High levels of grit enables one to maintain their interest, desire to achieve and motivation to

keep striving towards a goal, even when faced with a setback, or obstacle (Derilo, 2019). Without grit, one is likely to give up on accomplishing a goal. In the field of education where teachers are constantly adjusting their instructional delivery and classroom management to the nature and needs of their students, the grit mindset has been found to be a predictor of long-term teacher retention and effectiveness. Grit lends itself to educators because of the focus on the “significance of change and adaptation as required in the learning process, not simply on effectively achieving the goal” (Derilo, 2019, p. 56). This difference is important to note as in the field of education, where the most effective teachers are constantly reflecting, assessing and changing their instruction, rarely is there a solid end. Grit as a measure of teacher quality has recently taken hold in educational policy and school systems, so much so that it has been included as a dispositional factor in curriculum, and measures of student academic growth. Teacher preparation programs therefore must seek to understand the interactivity of grit and dispositions as well as the interplay between these factors and long-term success of teacher candidates.

In an effort to understand the relationship, if any, of a preservice teacher’s grittiness, dispositions, and success in their teacher preparation program, this study explored the following research questions: (1) How gritty are education majors?; (2) What relationship, if any, is there between

grit and dispositions in a teacher candidate?; (3) To what extent does grit influence the success of a teacher candidate during their Educator Preparation Program?

Methods

Participants

A convenience sample of undergraduate students who were either education majors or were undeclared majors with intent to declare an education major at a small, private liberal arts college were invited to participate through written invitations. Participants indicated their willingness to participate in the study through an online survey in Spring 2019. During the Spring 2020 semester, as students experienced the initial stress and quarantine lockdowns due to the COVID-19 pandemic, participants were invited to participate in the survey a second time.

Data were collected over the course of two semesters (Spring 2019 & Spring 2020) through an online survey. In 2019, out of 223 initial respondents, 171 (76.68%) fully completed the online survey instrument. In 2020, out of 120 initial respondents, 93 (77.5%) fully completed the online survey instrument. Sixty-three of the respondents completed both the 2019 and 2020 survey. As shown in Tables 1-3, survey respondents reported several key demographics including major, current classification by credits, and number of credits being taken during the current semester.

Table 1
Classification by Major (2019 v. 2020)

Major	Spring 2019		Spring 2020	
	<i>n</i> = 171		<i>n</i> = 93	
	<i>n</i>	<i>Percent (%)</i>	<i>n</i>	<i>Percent (%)</i>
Early Elementary	59	34.50	44	47.31
Early Elementary and Special Education	43	25.15	18	19.35
Middle Level Education	14	8.19	5	5.38
Middle Level and Special Education	10	5.85	0	0
Secondary Education	42	24.56	24	25.81
Music Education	3	1.75	2	2.15

Table 2
Current Classification by Credits (2019 v. 2020)

Class rank	Spring 2019		Spring 2020	
	<i>n</i> = 171		<i>n</i> = 93	
	<i>n</i>	<i>Percent (%)</i>	<i>n</i>	<i>Percent (%)</i>
Freshman	36	21.05	17	18.28
Sophomore	41	23.98	20	21.51
Junior	42	24.56	33	35.48
Senior	45	26.32	19	20.43
Post-Baccalaureate	7	4.09	4	4.30

Table 3
Number of Credits Being Taken in Current Semester (2019 v. 2020)

Number of credits	Spring 2019		Spring 2020	
	<i>n</i> = 171		<i>n</i> = 93	
	<i>n</i>	<i>Percent (%)</i>	<i>n</i>	<i>Percent (%)</i>
0-12 credits	6	3.51	2	2.15
13- 16 credits	98	57.31	56	60.22
17- 18 credits	61	35.67	31	33.33
19- 21 credits	6	3.51	4	4.30

Survey Instruments

Several instruments were employed in this study. First, the participants responded to eight demographic survey questions for the purposes of gathering relevant background information from the participants. Descriptive statistics were employed to analyze the demographic questions. Second, participants completed the *12- Item Grit Scale* created by Duckworth et al. (2007). This survey instrument provides scoring for an overall level of grittiness calculated based on the scoring of the two subscales: grit and self-control, with results ranging from 1 (not at all gritty) to 5 (extreme grittiness) (Duckworth et al., 2007) The reliability, validity and consistency of Duckworth’s *12-Item Grit Scale* are well-documented. Additionally, analyses were run using independent t-tests to determine if changes in answers between the surveys were statistically significant.

In order to evaluate the preservice teachers’ levels of dispositions, two different evaluation tools were utilized. All participants completed a self-evaluation rating scale of their personal and professional dispositions at several points in the program. The first self-assessment was during an early education course where

dispositions and the dispositional evaluation process were explicitly taught. The second self-assessment occurred when students enrolled in their Stage 1/2 field experience course. At both of these checkpoints, students engaged in individual conversations with their instructional faculty and/or their academic advisor about their self-assessment. Participants identified by education faculty with an area of concern related to their personal and professional dispositions, were assessed utilizing the education department’s four step disposition protocol. Within the protocol, areas of concern and action steps were identified for the student to focus on improving. This data was collected, and comparison statistics were utilized to evaluate any potential correlations between levels of grit and dispositions.

Results

The data shows that none of the participants from Spring 2019 or Spring 2020 scored a one, on the 12-item grit scale, which would indicate that they are not gritty at all. As shown in Table 4, in both data collection groups, less than one percent of the participants scored a 2.4 or lower in levels

of grittiness. On the high end of the scale (5- indicating extreme grittiness), during 2019, only 2 (1.17%) participants indicated extreme grittiness, and there were none in 2020. The majority of the participants' scoring indicated a mid-range level of

grittiness, with 34 (19.88%) participants in 2019, and 22 (23.66%) participants in 2020 scoring between 3.0- 3.4, and 73 (42.70%) participants in 2019 and 36 (38.71%) participants in 2020 scoring between 3.5- 3.9 (see Table 4).

Table 4
12-Item Grit Scale Results (Spring 2019 v. Spring 2020)

Score	Spring 2019		Spring 2020	
	<i>n</i> = 175		<i>n</i> = 93	
	<i>n</i>	<i>Percent (%)</i>	<i>n</i>	<i>Percent (%)</i>
1.0- 1.4	0	0	0	0
1.5- 1.9	0	0	0	0
2.0- 2.4	1	0.58	0	0
2.5- 2.9	20	11.70	7	7.52
3.0- 3.4	34	19.88	22	23.66
3.5- 3.9	73	42.70	36	38.71
4.0- 4.4	40	23.39	26	27.96
4.5- 4.9	1	0.58	2	2.15
5.0	2	1.17	0	0

Comparing levels of grit from Spring of 2019 to Spring 2020, it is interesting to note changes in the participants' levels of grit. Thirty-six respondents completed both the 2019 and 2020 survey. Three (4.76%) students did not experience any change to their grit level. There was a significant increase in grittiness by six (9.52%) of the respondents, while there was an equally significant decrease in levels of grit. Thirty-two percent (20) of the participants showed a moderate to slight increase in their levels of grit, while 41.27% (28) of the participants showed a moderate to slight decrease in grit. Comparing the total grit scores to the subscales for participants who completed both the 2019

and 2020 grit-survey shows that the total mean grit for these participants stayed the same (3.68; 3.64). There was a slight decrease in the interest subscale (3.95; 3.28) and increase in the perseverance subscale (4.10; 4.07) mean between years. Shifts in levels of grit from Spring 2019 to Spring 2020 are more apparent when reviewing individual subscale scores. A selected few of the participants' scores are highlighted in Table 5. Students A, C, E, G, and I all experienced an increase in their perseverance sub scores between Spring 2019 and 2020. Students B, D, F, H, and J all experienced a decrease in their perseverance and interest sub-scores (see Table 5).

Table 5
Comparison of Grit Subscales

Student	A		B		C		D		E		F		G		H		I		J	
	19	20	19	20	19	20	19	20	19	20	19	20	19	20	19	20	19	20	19	20
Perseverance Sub-scale	3.0	3.7	4.8	3.8	3.1	3.8	4.2	4.2	3.5	3.0	4.2	2.7	2.8	5.0	4.8	3.5	3.0	4.3	4.2	3.3
Interest Sub-scale	2.5	1.8	4.8	3.3	2.8	3.8	4.0	3.7	3.5	4.0	4.3	2.5	3.2	3.8	3.8	3.0	3.3	4.3	4.8	2.7

During the 2019 and 2020 academic year, any education major involved in the education department’s four-step dispositions protocol were compared with their level of grittiness to determine if there was any correlation between level of grittiness and dispositions. There were twenty-two education majors who were moved through the dispositions protocol during this time period. Ten of the 22 participated in this research study. Of these ten, four completed both the 2019 and 2020 grit survey. Three of the ten students left the education major by the end of the 2019-

2020 academic year. Only one of the ten progressed through multiple stages of the dispositions protocol. The level of grittiness ranged from 2.92 to 3.4, with a mean of 2.94. The four participants who completed the survey in 2019 and 2020 showed a change in their total grit scores, with two participants experiencing an increase in their total levels of grit. The two individuals who experienced a positive change in their grittiness levels, also demonstrated an increase in their level of perseverance in 2020 (see Table 6).

Table 6
Individuals on Dispositions Protocols

Participant	Reasons for being placed on dispositions	Spring 2019	Spring 2020
Student EE	Professional attitude Personal organization Demonstrates professional growth in planning, lesson execution, and reflection at a level expected for the identified stage of field experience	P: 3.83 I: 3.67 Total Grit: 3.5	P: 3.7 I: 2.7 Total Grit: 3.25
Student AA	Class attendance	P: 3.50 I: 3.5 Total Grit: 3.33	P: 3.3 I: 2.3 Total Grit: 2.8
Student K	Competence in written and oral expression Ethical, moral character, Ability to meet deadlines	P 3.83 I: 3.83 Total Grit: 3.4	P: 4.3 I:2.3 Total Grit: 3.8
Student L	Professional attitude		P: 3.5

	Personal organization Ability to meet deadlines Class Attendance		I: 3.83 Total Grit: 3.67
Student BB	Use of prudent judgment Class attendance	P:3.5 I: 3 Total Grit: 3.25	P:4.33 I:4.17 Total Grit: 4.25
Student M	Competence in written and oral expression Professional attitude Personal organization		P: 3.83 I: 3 Total Grit: 3.42
Student CC	Personal organization Ability to meet deadlines Use of prudent judgment	P:4.33 I: 2 Total Grit: 3.16	
Student DD	Professional attitude Personal organization Ability to meet deadlines Ability to accept and profit from constructive criticism	P: 3.66 I: 2.17 Total Grit: 2.92	
Student EE	Professional attitude Personal enthusiasm Ethical., moral character Personal organization Ability to meet deadlines Personal maturity Class attendance	P: 3.17 I: 2.67 Total Grit: 2.92	

Discussion

How gritty are education majors?

The first research question sought to explore how gritty education majors are. As a whole, education majors are fairly gritty individuals, with a mean total grit score of 3.68 in Spring 2019, and 3.64 in Spring 2020. This suggests that to be successful in the major, students need to have an above average level of grit. None of the participants scored a 1- *not gritty at all*, and less than one percent of the participants scored a 2.4 or lower levels of grittiness. Few respondents reported extreme levels of grittiness. This data indicates that while grit is an important factor for an education major, it is not the sole determinant of their success in the program. Levels of grit may

change over time as one faces new challenges and gains knowledge and skills in a related topic. However, for the majority of these participants, the changes were steady increases or decreases in grit, rather than large jumps. During the 2020 spring semester, the participants were experiencing the beginning of the COVID-19 pandemic, and for many students their overall grit score increased, particularly in the subscale of perseverance; while the mean for the interest subscale was slightly lower in 2020. This supports previous findings that grit and perseverance are predictors of long-term success in education. Those individuals with higher levels of grit and perseverance are more likely to experience long term success in the educational field, even as their interest may decrease (Xu, et al., 2020).

Grit and Dispositions

To explore any relationship between grit and dispositions in a teacher candidate, data was collected on students who participated in the departmental dispositions protocol. The data suggests a relationship between lower levels of grit and being placed on the initial stage of the dispositions protocol. The individuals who participated in the dispositions protocol had an overall mean grit score of 2.94. In comparison the total mean score of participants who completed both surveys was 3.68. The difference is not statistically significant, a null finding suggests that levels of grit are not connected to levels of dispositions.

The Role of Grit and Successful Completion of a Teacher Preparation Program

Findings indicate that preservice teachers without moderate or above average levels of grittiness were not successful in the teacher preparation program. Of the students who completed the surveys, none of the participants' responses reflected a "not gritty at all" score. Of the students who completed the survey and participated in the department's disposition protocol, only three left the major (see Table 7). To further

assess the relationship between level of grit and success in the teacher preparation program, the researchers followed the participants until graduation. Utilizing the dispositional protocol's internal note systems, the researcher collected reasons for the teacher candidate not being successful in their completion of the teacher preparation program. Seven of the seventeen respondents who did not finish the teacher preparation program also experienced difficulties with maintaining the departmental expectations for personal and professional disposition (see Table 7). Three of the participants had to leave the program due to failure to meet the state department of education's requirements for cumulative Grade Point Average (GPA), clearances, or basic skills test scores. The remaining seven participants changed their major or withdrew from the IHE. The data does not support a clear connection between grittiness and success in the teacher preparation program for students with middle to high levels of grit. However, those participants who were involved in the department's four-step disposition protocol who also had higher levels of grit were more likely to be successful following their participation in the dispositions protocol and ultimately remained in the program.

Table 7
Relationship of Grit and Success in a Teacher Preparation Program

Student Name	Grit Score	Reasons for not being successful
Student N	4.42	Failure to attain Teacher Candidacy due to grades
Student O	5	Changed major
Student P	3.8	Failure to attain Teacher Candidacy/clearances issue
Student Q	4	Dispositions
Student R	4	Dispositions/Failure to attain Teacher Candidacy/Left College
Student S	2.6	Left College
Student T	3.6	Changed major
Student U	3.6	Changed major
Student L	3.7	Financial/dispositions
Student M	3.4	Dispositions
Student K	3.8	Dropped out/ dispositions
Student V	4.17	Failure to attain Teacher Candidacy/GPA
Student W	3.66	Changed majors
Student X	2.92	Dispositions/non-certification route
Student T	3.16	Change majors/leave of absence
Student Y	3.6	Dispositions/non- certification route
Student Z	4.25	Left college

Conclusion

While the small sample size and the use of a convenience sample in this study limits the generalizability of the findings, they do positively contribute to the understanding of the factors impacting the success of a teacher candidate. The nature of self-

reporting is also a limiting factor, as it only factors in the perception of the participant. Another limiting factor was the survey timing during the initial COVID-19 shutdown, as the pandemic created unique circumstances which may have influenced the participants responses. Teacher preparation programs are rigorous in nature,

designed to prepare candidates for a career in a dynamic profession. The demands of the major and profession require candidates to be proficient in their content knowledge and pedagogy, as well as reflect the dispositions of an effective educator. Many factors influence the ultimate success of a teacher candidate, but the findings of this study suggest that understanding the potential influence of grit on candidate's levels of persistence may be related to the long-term success of future teachers. Teacher preparation programs are carefully constructed to provide scaffolded academic learning opportunities for their students and mechanisms are in place to support those students who falter. However, the findings of this study suggest that preservice teachers would benefit from support systems focused on developing the grittiness of teacher candidates. This may prove essential in the post-COVID learning environment where undergraduate students may be experiencing higher levels of stress and self-doubt as a lingering effect of learning experiences during the pandemic.

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