

# Grit as a Predictor of Academic Success Among Associate Degree Nursing Students

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## Abstract

**AIM** The purpose of this study was to explore whether grit is a predictor of success in associate degree nursing (ADN) programs.

**BACKGROUND** A question that challenges admission decision-making in nursing programs is “Who will succeed?” This question is particularly relevant in ADN programs, which often have higher attrition rates than baccalaureate programs.

**METHOD** This longitudinal, mixed-methods study was conducted with 451 ADN students across nine programs, including interviews with seven unsuccessful students and nine successful students.

**RESULTS** Short Grit Scale scores were not found to be statistically significant as a predictor of academic success; however, themes that emerged from the interviews do align with the theory of grit.

**CONCLUSION** Further research is needed to explore whether recognizing the level of grit in students during admission processes would help identify students who are likely to succeed.

**KEY WORDS** Academic Failure – Academic Success – Associate Degree Nursing Education – Grit – Holistic Admissions – Nursing Shortage – Student Retention – Underrepresented Nursing Students

A question that continues to challenge admission decision-making in nursing programs is, “Who will succeed?” This question is particularly relevant in associate degree nursing (ADN) programs, which typically admit a diverse and nontraditional student body, and 17 percent of students do not continue after their first year in their nursing program (Pence & Suerth, 2020). Considering the impact of the nursing shortage, which has been exacerbated by the COVID-19 pandemic, ADN programs play an important role in preparing nurses to meet growing health care demands. Ensuring a robust pipeline of graduates in rural and urban areas is of utmost importance to fill the need for nurses. Therefore, improving the admissions process is a critical step in meeting this goal.

Historically, ADN programs have relied on traditional metrics in their admission processes, including grade point average (GPA) in prerequisite course work, scores on assessment tests for college readiness (SAT, ACT), and scores on assessment tests specific to nursing (Test of Essential Academic Skills [TEAS], Health Education Systems, Inc. Admission Assessment [HESI A2], National League for Nursing Pre-Admission Exam [NLN PAX]; Olsen, 2017). Increasingly, nursing programs, like other health professions educational programs, have shown an interest in the use of nonacademic factors as part of a holistic admission decision-making process (Al-Alawi et al., 2020; Morrow, 2021; Sedlacek, 2017). Holistic admissions processes, in conjunction with traditional admission criteria metrics, such as GPA and grades in prerequisite science courses, improve and diversify overall candidate pools and acceptance by considering student life experiences and attributes (American Association of Colleges of Nursing [AACN], 2020; Glazer et al., 2014). Although the holistic review of applicants has not been widely adopted in ADN programs, many gather additional information about the character and academic readiness of applicants via written essays, interviews, and letters of recommendation.

Although students accepted into ADN programs meet overall entrance requirements and tend to be academically similar, attrition rates remain a concern (Olsen, 2017). Known reasons for attrition from ADN programs include both academic factors and psychological factors such as low self-esteem (Peterson-Graziose et al., 2013), low self-efficacy, insufficient resilience, and motivation issues (Olsen, 2017). However, students who enter ADN programs with a range of challenges still matriculate and graduate. The use of holistic admission processes that incorporate reliable variables may assist programs in identifying potential students who have the stamina to persist to graduation despite challenges.

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Grit has garnered attention as a nonacademic factor aligned with academic success (Duckworth, 2016; Terry & Peck, 2020) but has not been widely used as a component of nursing program admission criteria. Duckworth (2016) defines grit as a person's passion and perseverance to reach long-term goals despite setbacks or challenges. Therefore, the purpose of this study was to explore grit as a predictor of success in ADN programs.

## BACKGROUND

The ongoing nursing shortage has been exacerbated by the COVID-19 pandemic (AACN, 2020; Turale & Nantsupawat, 2021). Prior to the pandemic, the need for health care was escalating because of an aging population, worsening social determinants of health, and the increasing complexity of care needs (National Academies of Sciences, Engineering, and Medicine, 2021). Contributing to the storm of factors exacerbating the nursing shortage are the aging of the nursing workforce and the "great resignation," both decreasing the pool of experienced nurses. With a growing shortage of nursing faculty and insufficient clinical education sites limiting the enrollment of nursing students (AACN, 2020), a crisis is looming. To meet the demand for nurses, several states in the United States are enacting legislation and policies to increase the number of nursing students, particularly in ADN programs, and calling for efforts to matriculate students as quickly as possible (Smith & Farra, 2022).

The *Future of Nursing: 2020–2030* report (National Academies of Sciences, Engineering, and Medicine, 2021) reiterates the Institute of Medicine's call in 2010 to increase the number of baccalaureate-prepared nurses to meet the projected demands for nurses overall and diversify the nursing workforce. Graduates of ADN programs provide critically needed nurses to help alleviate the workforce shortage and begin the trajectory of nursing education, progressing into baccalaureate programs and diversifying the pipeline of nurses into the profession. Of concern, however, is the high attrition rate in ADN programs, especially among underrepresented nursing students (Priode, 2019), thus diminishing their opportunity to build and diversify the nursing workforce. Despite this, ADN programs continue to proliferate in the United States because they serve students locally and offer a cost- and time-effective path to becoming a registered nurse (dos Santos, 2020). Moreover, many ADN programs are located in community and technical colleges in rural and underserved locations across the country. ADN graduates continue to have many employment opportunities in those same locations (Mester, 2018) upon graduation, and admission to ADN nursing programs remains highly competitive.

In 2020, 35 percent of qualified applicants were turned away from admission into ADN programs (Mazinga, 2021); however, within the 2020 to 2021 academic year, the Accreditation Commission for Education in Nursing (2021) reported a 72.25 percent completion rate for ADN programs. Leaving midway through an ADN program takes a personal and financial toll on students and wastes already constrained financial and faculty resources (Kubec, 2017). Therefore, it is crucial to admit students who can matriculate to graduation. Although nursing-specific entrance test scores may predict short-term success, they do not predict graduation or success on the NCLEX®-RN (Olsen, 2017). The question remains, "Are there other factors to consider during the admission process?"

This study explored whether grit aligns with current preadmission test scores to better predict sustained interest and effort associated with completion of ADN programs. The theory and concept of grit

emerged from work in educational psychology and positive psychology (Duckworth, 2016). Grit theory, which guided this study, involves passion and perseverance to reach long-term goals, with grit described as sustained interest and effort to attain goals over time despite obstacles (Duckworth, 2016).

Grit has been measured in students with a 12-item instrument (Grit Scale) developed by Duckworth and then shortened to an eight-item instrument (Short Grit Scale [Grit-S]; Duckworth & Quinn, 2009). In a concept analysis of grit, Schimschal et al. (2021) found that gritty individuals tend to think positively, have clear goals, maintain focus on a single pursuit for extended time, and have better awareness of well-being and resilience. Individuals found to be less gritty can be taught aspects of grit to aid in the achievement of goals (Hochanadel & Finamore, 2015). Nonacademic variables, such as grit, support a holistic admission process and provide additional data to use to determine an applicant's potential for success. A qualitative study by Young-Brice and Dreifuerst (2020) suggests that grit may contribute to success in obtaining a nursing degree among Black nursing students.

The aim of this study was to explore whether the presence of grit is a differentiating factor that could predict who will be successful in a nursing program. Four research questions guided this study: 1) Do Grit-S scores predict successful completion of an ADN program? 2) Are Grit-S scores aligned with assessment scores from commonly used preadmission tests specific to nursing like the NLN PAX, the ATI TEAS, and the HESI A2? 3) How do students who successfully graduate from an ADN program, and those who do not, describe their experiences as a nursing student? 4) Can the themes in those descriptions be associated with aspects of grit?

## METHOD

A two-year longitudinal, multisite, mixed-methods study was used to explore the concept of grit as a predictor of academic success. Data were incorporated from the Grit-S instrument as well as from interviews with ADN students who successfully matriculated through their two-year nursing program and with students who did not succeed. The mixed-methods approach allowed for the development of a more complete understanding of the concepts of interest and a comparison of different perspectives drawn from the quantitative and qualitative data (Creswell & Creswell, 2018).

Following institutional review board approval, nine ADN programs from one Midwestern state participated in the study, yielding 451 student participants. The participants for this study represented demographics typically observed within the nursing discipline and within the study state: 83 percent ( $n = 373$ ) were female, and 72 percent ( $n = 328$ ) were White. Others were Asian (3%,  $n = 12$ ), Black or African American (5%,  $n = 23$ ), and Hispanic/Latinx (6%,  $n = 29$ ); one participant each was of Middle Eastern, North African, and American Indian descent; 17 (4%) indicated they were of multiple races, and 40 (9%) participants did not indicate race/ethnicity on the demographic survey.

## Quantitative Method

Preadmission test scores (HESI A2, TEAS, and NLN PAX) and the Grit-S (Duckworth & Quinn, 2009) were collected at the beginning of the study. All preadmission tests incorporate benchmark scores and are widely used as a critical aspect of the admission process. The Grit-S is a self-reported eight-item shortened version of the original 12-item Grit Scale (Duckworth & Quinn, 2009); scores range from

1.00 to 5.00, with higher values indicating higher degrees of grittiness. The scale has not been used in admission for nursing, but it has been noted that grittier students achieve higher grades and educational and scholastic success (Hill et al., 2016).

Multiple studies were conducted and reported by Duckworth and Quinn (2009) to validate the Grit-S; Cronbach's alphas were reported to range from .73 to .83. Confirmatory factor analysis was found to support a two-factor structure: consistency of interest and perseverance of effort loaded onto grit as second-order latent factors with internal consistency strongly correlating,  $r = .59, p < .001$ . Assessing and measuring grit has been conducted across various groups including teachers, military personnel including West Point cadets (Duckworth, 2016), national spelling bee participants (Duckworth & Kern, 2011), leaders in various industries, medical residents, and university students (Schimschal et al., 2021).

### Qualitative Method

One-on-one interviews were conducted with students who were unsuccessful in their ADN program at the end of each semester during two academic years. Interviews were also conducted with both unsuccessful and successful participants during the final semester. Unsuccessful participants either failed a course and could not progress until it was repeated, failed out of the program, or withdrew and stopped their program; these represented 40 percent ( $n = 182$ ) of the study participants. Successful was defined as those participants who matriculated through the ADN program and successfully graduated within the two-year study. Sixteen participants agreed to a single interview (9 successful, 7 unsuccessful). Blinded interviews were conducted using audio-recorded telephone calls and transcribed verbatim.

### Data Analysis

Quantitative data analysis was completed using SPSS Version 26. Descriptive statistics were used to describe the study sample. Scores for grit were calculated by using the grit scoring guide (some items reverse scored), followed by averaging all Likert scale question responses to produce a grit score (Duckworth & Quinn, 2009). Multiple logistic regressions were conducted to answer Research Questions 1 and 2.

Research Questions 3 and 4 were answered using qualitative descriptive analysis of the transcribed interviews. Five members of the research team, two of whom joined the team to ensure trustworthiness of the process, analyzed transcripts independently to become familiar with the data and generate initial codes. The research team followed an iterative process of independent coding and team discussions, member checking, and exploration of similarities and differences in interpretation, which led to the clustering of codes and themes (Creswell & Creswell, 2018). A Google JamBoard was used to visualize and thematically map the coding process and determine when data saturation was reached. Transcripts were analyzed according to participant status, first those who were unsuccessful and then those who were successful. Final reflections and peer discussions confirmed the themes as a continuum between the two groups of participants. Qualitative and quantitative data were triangulated at study completion to better understand grit as a predictor of academic success via the different data collected. This step confirmed the themes and interpretation of the overall study findings.

## RESULTS

Within the study sample, 269 participants (60%) successfully graduated from their ADN program, 87 (19%) failed, and 95 (21%) withdrew. The predictive ability of grit on the academic success of ADN students was examined using the total composite scores on the Grit-S; the total sample mean composite score was 3.77 out of 5. Those participants who passed had a mean composite score of 3.78, those who failed had a mean composite score of 3.77, and those who withdrew had a mean composite score of 3.77. Virtually no difference was found in the mean composite scores between groups.

The total mean score for the subscale of perseverance of effort was higher ( $M = 4.24$ ) when compared to the total mean score for the subscale consistency of interest ( $M = 3.6$ ). Within the perseverance of effort subscale, those who were successful had a mean score of 4.25 compared to 4.21 for those who were unsuccessful. Within the consistency of interest subscale, those who were successful had a mean score of 3.66, compared to 3.65 for those who were unsuccessful. Within the unsuccessful group, those who withdrew had the highest mean within the consistency of interest subscale ( $M = 3.68$ ); although not statistically significant, this was a noteworthy finding considering this group still withdrew from their ADN program at some point during the two years of this study. The higher total sample mean score on the perseverance of effort subscale aligns with the literature, especially as it relates to grit and academic success (Wolters & Hussain, 2015).

Scores were further analyzed by grouping participants using the mean grit score as a cutoff point ( $M = 3.77$ ). In the group of participants who scored as high or above the mean total grit score, 22 percent ( $n = 40$ ) failed and 23 percent ( $n = 43$ ) withdrew. In the group of participants who scored as low or below the mean total grit score, 27 percent ( $n = 47$ ) failed their ADN program and 28 percent ( $n = 50$ ) withdrew. These are noteworthy findings as those considered to have a high grit score failed or withdrew 22.5 percent of the time; meanwhile, those considered less gritty failed or withdrew at a rate of 29 percent.

A binomial logistic regression was performed to ascertain the effects of total sample grit scores, gender, race (White/non-White), and employment status on the likelihood of passing the program or failing/withdrawing. Linearity of the continuous variables with respect to the logit of the dependent variable of passing the program was assessed via the Box and Tidwell (1962) procedure. Based on this assessment, grit was found to be linearly related to the logit of the dependent variable, and there were no outliers in the model. However, the logistic regression model was not statistically significant,  $\chi^2(4) = 1.853, p = .763$ . Data analysis did indicate a statistically significant difference in proportions of .16,  $p = .006$ , to race (White/non-White) and program withdrawal; 22.4 percent of White students ( $n = 58$ ) had withdrawn as compared to 38.4 percent of non-White students ( $n = 28$ ).

Total sample Grit-S scores were also compared to the scores from the commonly used preadmission tests (ATI TEAS, HESI A2, NLN PAX); it was found that Grit-S scores did not correlate with the preadmission test scores. Each preadmission test revealed normal distributions. Test scores demonstrated no significant difference on the HESI A2 (mean for the passing group = 72.18; mean for the fail/withdraw group = 72.37) or the NLN PAX (mean for the passing group = 125.8, mean for the fail/withdraw group = 117.94) between the students who were ultimately successful and those who were not. However, a Mann-Whitney  $U$  test confirmed that there was a significant difference in the passing mean score on the TEAS, with

79 percent who were successful ( $n = 64$ ) and 71 percent who failed/withdrew ( $n = 13$ ),  $p < .001$ .

The quantitative findings meant that understanding the experiences of the participants and exploring whether grit was present in their stories was important. The 16 participants who agreed to an interview revealed their perceptions and expectations of their nursing program, and their goals to become a nurse, regardless of whether they were successful or not. These interviews yielded two themes: 1) Success is about really wanting this (to be a nurse) — preparing, planning, and doing, and 2) success is about keeping going — adapting, pivoting, and doing. These themes present distinct differences along a continuum and relate to participants' success or failure in their nursing program.

### Success Is About Really Wanting This: Preparing, Planning, and Doing

The continuum of “readiness” and of being fully prepared versus incredibly unprepared was apparent in the participant narratives. Successful participants' responses revealed realistic appraisal and awareness regarding the difficulty of undertaking a nursing program, the sacrifices to be made, and knowing that “this” (becoming a nurse) was the priority. One participant noted, “My biggest motivation is that I changed my life for this, and in order to get my life back, I need to finish it, because I literally gave up so much to be doing what I'm doing.” This theme was also present in the interviews from unsuccessful participants; for example, Lex, a student who withdrew, noted, “I have to change some of my habits as far as I'm always the go-to person. I'm always the one that — Oh, yeah, call her, she'll come in...and I always said yes, yes, and yes.” Jude, a student who failed, said, “I just wasn't prepared...like it's a completely different thought process than what I was used to and it wasn't easy to figure out study habits and how to get it in for the class.” In these quotations, we see that participants had the goal of becoming a nurse, but the difference in the level of preparedness and planning between those who were successful and those who were not was clear, in the same way as how seriously participants took their orientation to the nursing program. Those who were successful clearly understood that the program would be difficult and would take sacrifices, whereas some who were unsuccessful noted they did not fully grasp the level of difficulty, dedication, and planning required in all aspects of their life in order to be successful.

Wanting to become a nurse and preparing, planning, and doing is connected to the grit subscale of consistency of interest, which refers to sticking with interests over the course of time (Duckworth, 2016). This is important because when the interview data were analyzed and triangulated, there was a relationship with aspects of grit that could be informative for more holistic-oriented admission decisions.

### Success Is About Keeping Going: Adapting, Pivoting, and Doing

Malleability, growth mindset, creative and flexible perseverance, and the ability to self-regulate were apparent on a continuum between the experiences of the successful participants who were able to adapt and pivot and those who were not successful. One successful participant noted, “I think one of the biggest challenges was figuring out how I studied...the best way I learned materials, not just memorizing, but actually learning the material. All throughout the program I changed the way I studied just to try and figure out what was best for me. In

certain classes I would study differently than other classes — it changed continuously.” Mel, a student who chose to withdraw, said, “I really feel like I'm going to have to do a complete change, because it was a mess this semester and I want things to go better, so I'm really thinking about changing a lot of like my study habits, definitely doing the study groups, finding people that I'm comfortable with, because that was hard, finding good study groups was really difficult.” An unsuccessful student, who failed multiple classes and did not realize the need to adapt until it was too late, stated, “It's either you've got it or you don't and if you don't, then you've got to work on it. It's like I could absorb a book, but I can't absorb just — it's like I can actually read into a book and read into what I need to know, but I can't absorb the thinking process of it. But now, I'm trying to absorb the thinking process.”

Differing levels of self-awareness and “should have” versus “I did” type statements were present in the participants' narratives. Despite having the right mindset and perseverance, a common theme among the participants who failed was trying to adapt too late, despite pushing forward until the end of the semester. The ability to keep going aligns with the grit subscale of perseverance of effort. This is important because the Grit-S data demonstrated a higher perseverance of effort subscale mean score. When the interview data were analyzed and triangulated, there was thematic alignment with aspects of grit that could be informative for a more holistic perspective of the student and admission decisions.

## DISCUSSION

In this study, Grit-S scores failed to emerge as a significant predictor of success among ADN students in their nursing programs. This could be due to a variety of reasons. Ability and metacognition are moderators of grit; therefore, higher levels of grit may not mean much without the inherent academic ability necessary for success in a rigorous and demanding program such as nursing. This was mitigated through the admission process, which ensured that all students met a basic academic ability. Furthermore, having the wherewithal to engage in reflection, self-monitoring, and self-regulated learning is critical (Credé et al., 2017). Wolters and Hussain (2015) also found that student engagement in self-regulated learning may serve as a mediator or pathway to the perseverance of effort area of grit and academic success, which may also be critical for the Grit-S to predict success.

Research conducted after this study was completed indicated that there is inconsistency in how grit is measured. Duckworth et al. (2007) provided a definition of grit as “perseverance and passion for long-term goals.” Jachimowicz et al. (2018) indicated that the Grit-S focuses only on perseverance and does not adequately capture passion, which they define as motivating intentions and behaviors toward important values/preferences. If passion moderates the relationship between perseverance and performance (Jachimowicz et al., 2018), the Grit-S instrument does not fully measure the potential of grit to predict future success, influencing the findings of this study.

Both participant groups (successful and unsuccessful) had a similar total composite mean Grit-S score, but this study found a higher rate of failure or withdrawal among students who identified as non-White. McGee and Stovall (2015) argued that underrepresented students with grit disproportionately face socioeconomic variables that undermine their academic performance. To “get gritty” is assumed to help close achievement gaps, but there is danger in the generation of classifications that divide people by attitudes and



behaviors and decontextualize social and economic inequalities (Kirchgasler, 2018). Updates to the grit literature by Dixson (2019) found that grit, when compared to academic self-concept and educational engagement, is a poor predictor of academic achievement among urban high school students, suggesting that resources and interventions should be geared toward academic self-concept over grit. However, Strayhorn (2014) found among Black college students in a majority White college setting that grit was associated with higher college GPAs. In relation to this study's findings, it is clear that more research is needed to measure changes in levels of grit as underrepresented nursing students go through their nursing program. It is important to ascertain if grit is sensitive to compounding economic and educational barriers that undermine the cause of withdrawal or failures.

Each nursing program in this study utilized preadmission testing via the ATI TEAS, HESI A2, or NLN PAX, setting their own program-specific scoring thresholds to inform admission decisions. The preadmission test scores collected during this study did not correlate with grit. Complicating this aspect of the study is the influence of retesting on these preadmission tests to achieve better scores, which many students do (Dunham & MacInnes, 2018). Retaking examinations of this nature could indicate grit (Roszkowski & Spreat, 2016) and student motivation (Dunham & MacInnes, 2018). In this study, the reported scores for admission into the nursing program were collected without consideration of a retesting effect.

The interview data provide support for the need to develop a greater understanding of the influence of grit on the continuum of wanting to be a nurse and the ability to keep going. Following completion of this study, Duckworth noted that grit includes the concept of "sampling," which leads to long-term goals and how one reaches focused attention or specialization. Grit is not about sticking with something despite it not fitting; it is about understanding when to move on (Brown & Duckworth, 2021). The students who withdrew or failed may have been demonstrating this aspect of grit but did not articulate it as such in the data. What was apparent in the interviews from those who were unsuccessful was the misalignment of perceptions of the nursing role and the level of decision-making and difficulty of a nursing program. The aspects of growth mindset and positive attitude within grit may play a role here as students who were unsuccessful discussed setbacks and challenges and considered themselves failures. They described losing confidence and motivation to continue, which is representative of a fixed mindset (Bashant, 2014; Williams, 2020). Those with higher grit tend to use more of an optimistic tone when describing their abilities and overcoming setbacks, demonstrating a growth mindset (Schimschal et al., 2021).

## LIMITATIONS

Although this study used a longitudinal and multisite design, data collection occurred in a cross-sectional manner; therefore, measurement of grit scores at different time points in the study was not feasible. This led to difficulty in making causal inferences regarding grit scores and student success to graduation. Furthermore, the interviews with unsuccessful students were a single snapshot of the students' experiences at the point of failure, whereas interviews with successful students were at the point of graduation. Neither captured the time leading up to, or after; therefore, it is not clear whether the information shared would remain consistent. Multiple Grit-S score data points and interviews with participants throughout the two years of their program may yield different data and would be recommended.

Grit is also about stamina, and this study did not evaluate if those who withdrew or failed returned and eventually did finish their programs. Maintaining the goal of becoming a nurse despite disappointments or setbacks is considered part of grit (Duckworth & Gross, 2014). Study findings that demonstrated that those who withdrew had the highest means within the consistency of interest grit subscale and those who were successful had the highest perseverance of effort subscale means warrant further exploration.

Finally, the Grit-S is a self-report measure subject to reference bias. It may not have been sensitive enough at the point of data collection to fully capture the grittiness of participants as they began their nursing program. Grit involves working toward goals that can take years and even decades to accomplish (Duckworth & Gross, 2014), which supports that this instrument may not be the correct instrument to use in the context of admissions to a nursing program. Furthermore, with the addition of updates to the literature regarding the measurement of grit, continued use of the eight-item Grit Scale is in question, indicating use of the 12-item Grit Scale and comprehensive scores (Duckworth et al., 2021). Longitudinal research with multiple data points is warranted to better understand if grit measurement is useful to incorporate into admission decision-making processes.

## CONCLUSION

Although many ADN programs have high attrition rates, the loss of 40 percent of study participants is sobering, especially in the face of a nursing shortage. Admission criteria are intended to help programs choose applicants who can and will be successful. Although the Grit-S did not demonstrate predictive success or failure for this process, further research into this critical issue is necessary. It is recommended that future research be longitudinal in nature to capture grit scores at multiple points within a nursing program to ascertain change over time. It is also recommended that interviews also be conducted over time. It will also be important to collect demographic differences, specifically measuring grit scores among underrepresented nursing students.

Efforts to promote nursing student success remain an area for study. To establish if grit is a useful noncognitive variable for use in holistic admission decisions, research that explores and compares interventions targeting different aspects of grit is important, including studies testing the impact of teaching aspects of grit prior to or during the initial months of a program. Finally, determining whether grit scores contribute to the identification and retention of potential at-risk students is essential to discover how much support, such as mentoring, is necessary to reduce the risk of withdrawal or failure.

## REFERENCES

- Accreditation Commission for Education in Nursing. (2021) *Report to constituents*. <https://www.acenursing.org/About/Report-to-Constituents/RTC2021.pdf>
- Al-Alawi, R., Oliver, G., & Donaldson, J. F. (2020). Systematic review: Predictors of students' success in baccalaureate nursing programs. *Nurse Education in Practice*, 48, 102865. 10.1016/j.nepr.2020.102865
- American Association of Colleges of Nursing. (2020). *Nursing faculty shortage*. <https://www.aacnursing.org/news-information/fact-sheets/nursing-faculty-shortage/>
- Bashant, J. (2014). Developing grit in our students: Why grit is such a desirable trait, and practical strategies for teachers and schools. *Journal for Leadership and Instruction*, 13(2), 14-17.
- Box, G. E. P., & Tidwell, P. W. (1962). Transformation of Independent Variables. *Technometrics*, 4, 531-550. 10.1080/00401706.1962.10490038
- Brown, B., & Duckworth, A., (Hosts) (2021). Grit and the importance of trying new things with Dr. Angela Duckworth. In *Dare to lead with Brené Brown*. <https://>

- brenbrown.com/podcast/brene-with-dr-angela-duckworth-on-grit-and-the-importance-of-trying-new-things/
- Credé, M., Tynan, M. C., & Harms, P. D. (2017). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology, 113*(3), 492-511. 10.1037/pspp0000102
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.
- Dixon, D. D. (2019). Incorporating hope and positivity into educational policy. *Policy Insights From the Behavioral and Brain Sciences, 6*(2), 130-137. 10.1177/2372732219863137
- dos Santos, L. M. (2020). I want to become a registered nurse as a non-traditional, returning, evening, and adult student in a community college: A study of career-changing nursing students. *International Journal of Environmental Research and Public Health, 17*(16), 5652. 10.3390/ijerph17165652
- Duckworth, A. (2016). *Grit: The power of passion and perseverance*. Simon & Schuster.
- Duckworth, A., & Gross, J. J. (2014). Self-control and grit. *Current Directions in Psychological Science, 23*(5), 319-325. 10.1177/0963721414541462
- Duckworth, A. L., & Kern, M. L. (2011). A meta-analysis of the convergent validity of self-control measures. *Journal of Research in Personality, 45*(3), 259-268. 10.1016/j.jrp.2011.02.004
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6), 1087-1101. 10.1037/0022-3514.92.6.1087
- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment, 91*(2), 166-174. 10.1080/00223890802634290
- Duckworth, A. L., Quinn, P. D., & Tsukayama, E. (2021). Revisiting the factor structure of grit: A commentary on Duckworth and Quinn (2009). *Journal of Personality Assessment, 103*(5), 573-575.
- Dunham, M., & MacInnes, J. (2018). Relationship of multiple attempts on an admissions examination to early program performance. *Journal of Nursing Education, 57*(10), 578-583. 10.3928/01484834-20180921-02
- Glazer, G., Danek, J., Michaels, J., Bankston, K., Fair, M., Johnson, S., & Nivet, M. (2014). *Holistic admissions in the health professions: Findings from a national survey*. Urban Universities for HEALTH.
- Hill, P., Burrow, A., & Cotton Brink, K. (2016). Persevering with positivity and purpose: An examination of purpose commitment and positive affect as predictors of grit. *Journal of Happiness Studies, 17*, 257-269. 10.1007/s10902-014-9593-5
- Hochanadel, A., & Finamore, D. (2015). Fixed and growth mindset in education and how grit helps students persist in the face of adversity. *Journal of International Education Research, 11*(1), 47-50. 10.19030/ijer.v11i1.9099
- Jachimowicz, J. M., Wihler, A., Bailey, E. R., & Galinsky, A. D. (2018). Why grit requires perseverance and passion to positively predict performance. *Proceedings of the National Academy of Sciences, 115*(40), 9980-9985. 10.1073/pnas.1803561115
- Kirchgasler, C. (2018). True grit? Making a scientific object and pedagogical tool. *American Educational Research Journal, 55*(4), 693-720. 10.3102/0002831217752244
- Kubec, C. (2017). Reducing nursing student attrition: The search for effective strategies. *The Community College Enterprise, 23*(1), 60-68.
- Mazinga, G. (2021). NLN biennial survey of schools of nursing academic year 2019-2020: Executive summary. *Nursing Education Perspectives, 42*(5), 333-334.
- McGee, E. O., & Stovall, D. (2015). Reimagining critical race theory in education: Mental health, healing, and the pathway to liberatory praxis. *Educational Theory, 65*(5), 491-511. 10.1111/edth.12129
- Mester, J. S. (2018). Rural nurse recruitment. *Nursing Management, 49*(12), 51-53. 10.1097/01.NUMA.0000544468.98484.b7
- Morrow, M. R. (2021). Holistic admission: What is it? How successful has it been in nursing, and what are the possibilities? *Nursing Science Quarterly, 34*(3), 256-262. 10.1177/089431842111010431
- National Academies of Sciences, Engineering, and Medicine. (2021). *The future of nursing: 2020-2030*. National Academies Press. 10.17226/25982
- Olsen, J. M. (2017). Integrative review of admission factors related to associate degree nursing program success. *Journal of Nursing Education, 56*(2), 85-93. 10.3928/01484834-20170123-05
- Pence, P. L., & Suerth, M. P. (2020). Multidimensional variables influencing program completion: A three-year cohort study of associate degree and practical nursing students. *Teaching and Learning in Nursing, 15*(3), 159-163. 10.1016/j.teln.2020.01.009
- Peterson-Grazioplene, V., Bryer, J., & Nikolaidou, M. (2013). Self-esteem and self-efficacy as predictors of attrition in associate degree nursing students. *Journal of Nursing Education, 52*(6), 351-354. 10.3928/01484834-20130520-01
- Priode, K. (2019). Juggling school with life: How the successful non-traditional nursing student stays in school. *Teaching and Learning in Nursing, 14*(2), 117-121. 10.1016/j.teln.2018.12.010
- Roszkowski, M., & Spreat, S. (2016). Retaking the SAT may boost scores but this doesn't hurt validity. *Journal of the National College Testing Association, 2*(1), 1-16.
- Schimschal, S. E., Visentin, D., Kornhaber, R., & Cleary, M. (2021). Grit: A concept analysis. *Issues in Mental Health Nursing, 42*(5), 495-505. 10.1080/01612840.2020.1814913
- Sedlacek, W. (2017). *Measuring noncognitive variables. Improving admissions, success, and retention for underrepresented students*. Stylus.
- Smith, S. J., & Farra, S. L. (2022). The impact of COVID-19 on the regulation of nursing practice and education. *Teaching and Learning in Nursing, 17*(3), 302-305. 10.1016/j.teln.2022.01.004
- Strayhorn, T. L. (2014). What role does grit play in the academic success of Black male collegians at predominantly White institutions? *Journal of African American Studies, 18*(1), 1-10. 10.1007/s12111-012-9243-0
- Terry, D., & Peck, B. (2020). Factors that impact measures of grit among nursing students: A journey emblematic of the koi fish. *European Journal of Investigation in Health, Psychology and Education, 10*(2), 564-574. 10.3390/ejihpe10020041
- Turale, S., & Nantsupawat, A. (2021). Clinician mental health, nursing shortages and the COVID-19 pandemic: Crises within crises. *International Nursing Review, 68*(1), 12-14. 10.1111/inr.12674
- Williams, C. A. (2020). Nursing students' mindsets matter. *Nurse Educator, 45*(5), 252-256. 10.1097/NNE.0000000000000798
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning, 10*(3), 293-311. 10.1007/s11409-014-9128-9
- Young-Brice, A., & Dreifuert, K. T. (2020). Exploring grit among Black prelicensure nursing students. *Nursing Education Perspectives, 41*(1), 46-48. 10.1097/01.NEP.0000000000000473

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