



Full Length Research Paper

Physical Therapist Leaders: How gritty are they?

RUNNING HEAD: Gritty PT Leaders

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This phenomenological study utilized the Grit Scale survey and interviews to investigate levels of grit among physical therapist (PT) leaders. Grit has been defined by Duckworth as perseverance and long term focus on goals. Phase I (n = 13) utilized the Grit Scale survey and Phase II (n = 5) utilized phenomenological interviews. The Grit Scale survey data were analyzed with SPSS 20. Qualitative data were analyzed with the whole-parts-whole method of Giorgi, Dahlberg, Drew, and Nyström. Participants had high grit scores ($3.9 \pm .47$) and demonstrated leadership at the local district, state, and national levels. Group mean for grit among PTs was higher than values found by Duckworth for Ivy League undergraduates, West Point cadets, adults aged 25 years, and National Spelling Bee participants. Themes emerging from the phenomenological interviews included: 1) Bold openness with a growth mindset; 2) Self-reflection; 3) Learning from challenges; and 4) Importance of mentors. Physical therapist leaders embodied high qualities of grit and were able to articulate how they focused on their long term goals despite challenges. Better understanding grit among students applying to PT school may help educators predict future leaders and add diversity of talent to the physical therapy profession.

Key words: Grit, physical therapist, leadership

Abbreviations:

Physical Therapist (PT)

Intelligence quotient (IQ)

Graduate Record Examination (GRE)

Grade Point Average (GPA)

Doctor of Physical Therapy (DPT)

American College Test (ACT)

Physical Therapy Centralized Admissions Service (PTCAS)

American Physical Therapy Association (APTA)

INTRODUCTION

Intelligence as measured by intelligence quotient (IQ) tests, the Graduate Record Examination (GRE) scores,

and grade point average (GPA) is commonly considered in graduate program admissions processes to assist in

selecting qualified candidates. Although it is believed that GRE and GPA may be good predictors for academic success in a doctoral program (Cross, 2013), a personality trait such as grit might be a better predictor of potential achievement as a leader in a given profession. Duckworth *et al.* (2007) has suggested that grit is a personality trait shared by leaders of every field. Grit has been defined as “perseverance and passion for long-term goals” (Duckworth, *et al.*, 2007, p. 1087). An individual with grit has been described as one who possesses stamina to continue working toward a goal despite facing setbacks or challenges (Duckworth, *et al.*, 2007, 2009). Grit may be a trait for academic institutions to consider when selecting candidates for Doctor of Physical Therapy (DPT) programs.

Some have pondered why individuals with comparable IQ scores differ with regard to levels of achievement within various professions (Duckworth *et al.*, 2007, 2009; Eskreis-Winkler *et al.*, 2014; Von Culin, *et al.*, 2014). Measures of IQ have been thought to account for only one third of the variance in measures of success (Duckworth, *et al.*, 2007). Duckworth *et al.* (2007) suggests that grit may be as important as IQ in high achievement. Studies have suggested that grit influences personal, academic, and professional roles (Arslan *et al.*, 2013; Duckworth *et al.*, 2007, 2009; Eskreis-Winkler *et al.*, 2014). Grit has been associated with educational effectiveness among teachers (Robertson-Kraft *et al.*, 2014), academic performance at elite universities (Duckworth *et al.*, 2007), and higher rank in final rounds at National Spelling Bee competitions (Duckworth *et al.*, 2007, 2011).

Student retention in educational programs has also been found to be influenced by grit. High grit scores among West Point cadets were more strongly correlated with retention rates than IQ, high school rank, or self-control behaviors of cadets (Duckworth *et al.* 2007; Maddi, *et al.*, 2012). Grit was demonstrated to be a factor in successful retention and graduation among high school students in Chicago public schools (Eskreis-Winkler *et al.*, 2014) and was found to be predictive of successful retention of traditional and nontraditional engineering students (Learner, 2013). Strayhorn (2013) examined grit among Black male collegians at predominantly White institutions and found grit was a better predictor of academic success than traditional measures such as GPA and American College Test (ACT) scores. Grit scores were also predictive of persistence toward degree completion among participants in the Strayhorn study. Furthermore, Strayhorn suggested that grit may be nurtured in college students through parent, teacher, and mentor involvement with Black male undergraduate students.

The influence of grit extends to doctoral levels of education. Cross (2013) suggested that grit was related to GPA and the number of hours doctoral students spent studying per week in their program. Here success was related to higher grit scores as doctoral students progressed toward the defense of their dissertations. Arslan *et al.* (2013) suggest that academic success requires not only a focus on the ultimate goal, but also an ability to move toward that goal with endurance regardless of obstacles encountered along the way.

Grit may play a role in finding satisfaction and meaning in life beyond educational success among adults. Grit has been positively correlated with happiness, positive affect, and life satisfaction which can impact an individual's personal and professional roles (Singh *et al.*, 2008). Von Culin *et al.* (2014) reported that the strength of grit may be linked to the pursuit of happiness, the meaningfulness of activities with a higher altruistic purpose, and full engagement toward goal attainment. Thus, retention, leadership, and satisfaction with one's profession may be related to a sense of altruism and active engagement despite facing challenges. Grit as a personality trait among healthcare professionals may predict success and differentiate leaders from colleagues.

Grit may be linked to satisfaction and career longevity among physicians practicing in rural, nonrural, specialty, and primary care settings. Reed *et al.* (2012) examined the differences in satisfaction and grittiness among Idaho physicians practicing in various settings and specialties. The results suggested that specialty physicians reported significantly higher levels of ambition and perseverance of effort compared to primary care physicians, especially those practicing in nonrural settings. Additionally, rural specialty care physicians also had higher levels of ambition than nonrural primary care physicians. Grit levels among all physicians in this study were lower than those found among other high performing individuals studied by Duckworth *et al.* (2007, 2009) such as Ivy League undergraduates; West Point Cadets; and high-performing adults aged ≥ 25 years.

As with other populations examined in the literature, grit may be important to better understand success in the profession of physical therapy. Physical therapists (PTs) have opportunities to engage in leadership activities through clinical practice and other professional responsibilities including roles as administrators, consultants, educators, and researchers. Before entering the profession of PT there are many challenges encountered, including admittance to an academic doctoral program, retention through graduation, passing the national board examination, and obtaining a meaningful job. Physical therapist leaders may demonstrate high qualities of grit in their leadership roles

and in other aspects of their lives. Of specific interest are the strategies PT leaders have implemented to achieve goals.

Selecting candidates who will be successful future leaders in DPT programs and within the profession is an important issue. The Physical Therapy Centralized Admissions Service (PTCAS, 2014) posts aggregate data regarding selection criteria utilized by entry-level DPT academic institutions across the United States of America. Common criteria for application to programs include GPA, GRE test scores, and observation hours as the top components utilized in the admissions process (PTCAS, 2014). Only ten programs did not require the GRE for application (PTCAS, 2014). Although GPA and GRE are considered measures of intelligence, they may not necessarily be the best measures of longevity and success in the profession of physical therapy. Grit may be considered a different predictor of success as a leader beyond graduation from a PT program. Understanding the relationship between grit, leadership, and longevity in the profession may challenge the current status quo on how programs select candidates for entry-level doctoral programs in physical therapy.

Although there have been studies regarding grit and success in many fields, there is a paucity of studies investigating grit among leaders in the physical therapy profession. The purpose of this study was to investigate the levels of grit in physical therapist leaders and their journey into leadership positions within the profession. The research questions were as follows:

- 1) What is the level of grit in physical therapist leaders in the United States of America?
- 2) What is the lived experience of physical therapist leaders who exhibit high levels of grit?
- 3) How does grit factor into leadership for physical therapists?

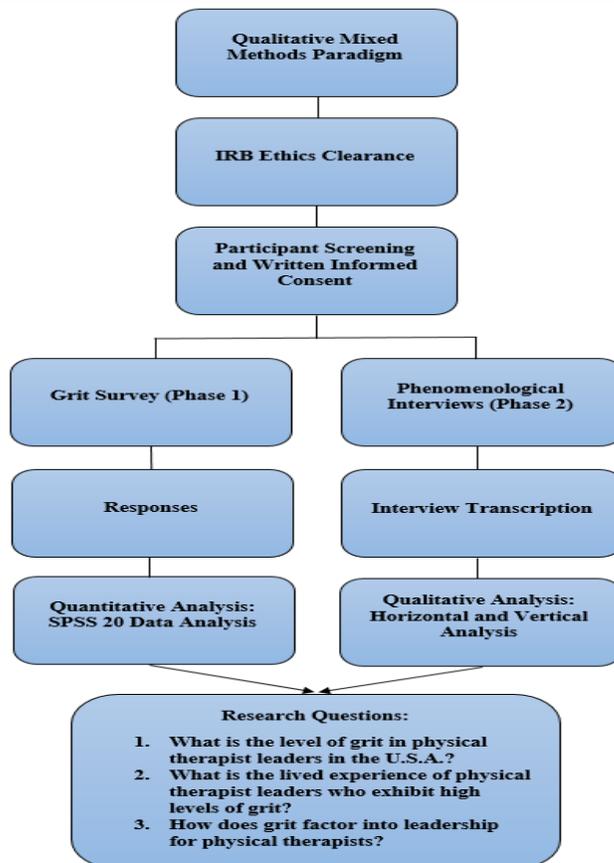
METHODOLOGY

Mixed methods were used in this study to answer the research questions regarding grit among physical therapist leaders. A survey which included basic demographic information and the 12-item Grit Scale comprised phase one of the study. The Grit Scale administered through Qualtrics™ allowed the researchers to reach a wide population of PT leaders from a variety of settings in order to obtain a broad understanding of the issues therapists face in their quest for reaching goals. Physical therapist leaders who completed the survey were invited to participate in an optional phenomenological interview regarding their lived experiences of grit in accomplishing their goals. These

interviews allowed the researchers to gain a deep, rich description of grit among PT leaders.

Phenomenological research is qualitative in nature examining the lived experiences of participants by listening to their stories in order to derive meaning from these experiences (Dahlberg, 2001; Thomas *et al.*, 2002; van Manen, 1997). Author van Manen (1997) defines phenomenology as “the study of the lifeworld or our everyday experiences and the meanings we construct from our experiences” (p. 33). The researchers bracket and set aside their beliefs regarding the phenomenon being studied. In this process, the researchers and others may begin to understand trends that develop from such experiences. Two main assumptions in phenomenological research are: 1) humans seek meaning in their lives; and 2) multiple realities exist that are socially constructed (Dahlberg, 2001; Thomas *et al.*, 2002; van Manen, 1997). See Figure 1 for a diagram describing the research methods used in this study. The Institutional Review Board (IRB) at the University of St. Mary in Leavenworth, KS approved this study.

Figure 1: Research Methods Used (Legend: Arrows = direction of thought)



Participants

Participants were recruited from the American Physical Therapy Association (APTA) Health Policy and Administration Section listserv and the APTA Education Section listserv. Inclusion criteria for the study were that participants: 1) must be licensed to practice physical therapy; 2) may be male or female; 3) may work in any setting; and 4) must be involved in a leadership role in the profession or the community. There were 13 participants (3 males, 10 females) in the Phase I survey and five participants (3 males, 2 females) in the Phase II phenomenological interviews. The Phase I Grit Scale survey remained open between the dates of December 1, 2014 – March 1, 2015.

Instruments/Tools

The Grit Scale was designed to assess long-term success and perseverance in reaching goals and has been found to have Cronbach α values ranging from .73 - .83, meaning the tool has good construct validity, measuring what it sets out to measure (Duckworth, 2009; Eskreis-Winkler, *et al.*, 2014). It is a 12-item self-report measure of the positive and negative aspects of being able to focus on reaching long-term goals. Statements on the Grit Scale are graded on a five point Likert scale and specifically target one's ability to set, pursue, and focus on goals, as well as diligence in working toward goals, and dealing with setbacks. See Appendix A for the 12-item Grit Scale utilized in this study.

Procedures

Participants who accepted the invitation to participate in this study were emailed an online link directing them to the Grit Scale and demographic survey through Qualtrics™. Completion and submission of the Grit Scale survey implied consent. The survey required 10 - 15 minutes to complete. Additionally, the volunteers were invited to an optional interview about specific experiences of grit in their professional lives via Skype™ or FaceTime™. These interviews lasted 45 – 60 minutes.

Participants consenting to interviews were screened by the principal researcher (SGK) by telephone to confirm that they met the inclusion criteria. Participants received an informed consent document prior to their interview. Upon return of this form, interview appointments were made. Participants chose an alias to keep their identity confidential. Semi-structured interviews were conducted in face-to-face meetings online through Skype™ or FaceTime™. The interviewing researcher transcribed the interviews within one week. A transcribed copy was

returned to the participant by email to check for content accuracy of the interview. Any concerns by the participant were addressed by the interviewing researcher and corrected for the final transcript analysis. This member checking process provided the researchers with an accurate transcript to analyze. Furthermore, the researcher conducted interviews using the strategy of processual consent described by Rosenblatt (1995). By means of this process, the intensity of interview questions was decreased when participants appeared distressed and were allowed to take time for silent reflection.

Data Analysis

Quantitative data were analyzed by SPSS 20 (IBM Corp., 2011). Cronbach's α was used to determine the internal consistency of the Grit Scale for this study. Pearson correlation coefficient was used to examine associations between the constructs of grit and GPA for undergraduate and PT school among the participants.

Interview transcripts were analyzed using the descriptive approach described by Giorgi (1975, 1997) and Dahlberg, Drew, and Nyström (2001). This process involved a whole-parts-whole type of holistic examination of the interview texts to reveal the constituents or themes of the experience. The research team collaborated to summarize the essence of the experience with the themes generated. The constituents or themes were shared with the participants who responded by email as to whether or not the constituents resonated well with the essence of their experience. This process served as the vertical analysis.

A horizontal analysis across all interviews developed the common description of grit among participants interviewed in this study. Upon completion of this horizontal analysis, a summary of the common themes were sent to each participant for review to ensure dependability and credibility. To further determine credibility and trustworthiness of the final description, a completed summary of the themes for the grit experience was shared with PT providers who were not a part of this study. This was considered the resonance round for the general description of grit among physical therapists. See [Table 1](#) for the comments from the individuals critiquing the description of grit in the resonance round. Comments from these individuals were used to solidify the credibility and trustworthiness of this description.

RESULTS

Participants in Phase I of the study were both male ($n = 3$) and female ($n = 10$). Five participants agreed to the in

Table 1: Resonance Round Comments Regarding Grit Descriptions

I really like your description of grit in PTs. I can relate to it and the challenges of being a PT. I hope I am a person with grit! I will have to take the test. (Personal communication, July 2015)

Great description of grit. PTs are some of the grittiest individuals I know. Many of us have had to struggle and get through difficulties in school to reach our goals. The description was fun to read and brought back some good memories and some that I did not think were good at the time but now looking back I see that they made me who I am now. (Personal communication, August 2015)

I like it! Very interesting! My experience echoes with the description. (Personal communication, August 2015)

Love the concept of grit and Angela Duckworth's TED!! I show it to all of our students. I think your definition is good. (Personal communication, October 2015)

I don't disagree with everything you list here. I think I might have a slightly difference [sic] emphasis though. I feel grit includes the overcoming of obstacles/setbacks to achieve the long-term goals. You[r] word choice of the first sentence seems to glance over the "overcome" part. I agree that can be a revision of goal or seeking alternate option but it's still getting to that goal. I think "remaining focused" is a way to get to achievement but it is not achievement. Maybe I am looking for "achieving LTGs" or "overcoming setbacks" somewhere. It probably is truly an "or." (Personal communication, October 2015)

Interesting idea to look at "grit" as an essential skill for PT success. (Personal communication, October 2015)

Yes, it does resonate with my experience. (Personal communication, October 2015)

Grit is more visceral than you describe. (Personal communication, October, 2015)

Grit is a combination of courage and persistence. Like it. (Personal communication, October, 2015)

depth phenomenological interviews and were both male ($n = 3$) and female ($n = 2$). Participants had been actively engaged in the PT profession with 92% of the participants having been therapists for 21 years or more. All were members of APTA and held leadership positions in their communities through service on boards, engagement in their faith communities, mentoring others, volunteering as coaches, or participation in athletics. See [Tables 2](#) and [3](#) for the descriptive characteristics of the participants from Phases I and II. [Table 4](#) lists the leadership roles and activities the participants engaged in as a part of their profession of physical therapy.

Quantitative Results

Mean undergraduate GPA was $3.417 \pm .326$. The mean GPA for PT school was $3.375 \pm .345$. Group mean for grit among these physical therapist leaders was $3.90/5.00 \pm .47$. Cronbach's α (.818) indicated that the Grit Scale survey had good internal consistency and is comparable to the Cronbach α of .73 - .83 reported by the Grit Scale survey authors (Duckworth, 2009; Eskreis-Winkler, *et al.*, 2014). See [Table 5](#) for GPA and Grit Scale survey results. Grit was not correlated with GPA in

undergraduate or PT school in this study. The correlation of both the undergraduate GPA and PT school GPA were trending toward significance. See [Table 6](#) for average grit scores among various populations.

Qualitative Results

Themes that emerged from the phenomenological interviews describing the lived experiences of PT leaders with grit included: 1) bold openness with a growth mindset; 2) importance of self-reflection; 3) learning from challenges; and 4) importance of mentors. See [Table 7](#) for the qualitative themes and exemplars.

In the common description of grit across all interviews, participants shared their experiences and described their challenges with acceptance into PT school, graduating, entry into the profession, and throughout their careers. All participants described having a bold openness and growth mindset to help them focus on their long-term goals despite occasional setbacks or obstacles. This openness to embrace opportunities allowed participants to take risks not otherwise considered. Participants reported that self-reflection was necessary to grow and move toward their goals. If goals were not attainable,

Table 2: Descriptive Characteristics of Participants in Phase I

Phase I: Survey	
Number of Participants	13
Sex:	
Males	3
Females	10
Mean Age (years)	53.5 ± 8.1
Mean Years Practicing	30 ± 10
Education Levels	
Certificate	0%
Bachelor's Degree	43%
Master's Degree	21%
Doctoral Degree	29%
Other (Specialty Certificate)	7%
Highest Level of Education Attained Beyond PT Degree	
Bachelor's Degree	29%
Master's Degree	36%
Doctoral PhD	21%
Doctoral EdD	7%
Doctoral DSc	0%
Doctoral Other (DPT)	7%
Practice Settings:	
Acute Care	14%
Education	58%
Home Health	0%
Geriatrics	7%
Outpatient Orthopedics	7%
Private Practice	0%
Neurological Rehabilitation	7%
Pediatrics	0%
Other (Research)	7%

self-reflection led participants to reconsider their strengths and areas for improvement. At times a shift in the chosen path was necessary. Sometimes the process of self-reflection led the participants away from a futile situation or professional struggle into a new area of professional growth, leadership, and new possibilities.

Finding new options for life goals were possible through lessons learned during challenging situations. Seeking mentors or finding oneself with a mentor was also crucial in helping participants become aware of both their limits and potential. Mentors provided wisdom for unexpected events participants were facing. Grit among physical

Table 3: Descriptive Characteristics of Interview Participants in Phase II

Phase II: Interviews	
Number of Participants	5
Sex:	
Males	3
Females	2
Mean Age (years)	55.4 ± 8.2
Mean Years Practicing	30 ± 6.4
Current Practice Settings:	
Academic Setting	5
Previous Practice Settings:	
Acute Care	1
Geriatrics	1
Pediatrics and Neuro Rehab	2
Private Practice	1

therapists in this phenomenological study helped therapists journey to greater insight about themselves, their profession, as well as the gifts and talents they had to offer the world.

DISCUSSION

Participants in this study had high levels of grit and were able to articulate strategies used to accomplish their long-term goals when facing setbacks. The mean grit score of 3.90/5.00 for PT leaders was higher than average grit values found by Duckworth *et al.* (2007) for Ivy League undergraduates (3.46 ± .61), West Point cadets from the classes of 2008 and 2010 (3.78 ± .53 and 3.75 ± .54 respectively), adults aged 25 years or more (3.65 ± .67 and 3.41 ± .73), and National Spelling Bee participants (3.50 ± .67). In contrast, non-traditional doctoral students in the Cross (2013) study scored higher in grit (4.00 ± .48) than the participants in this study. It appears that the PT leaders in this study were in good company with regard to grit and indeed demonstrated gritty personality traits.

When compared to rural and non-rural physicians in Idaho, this group of PT leaders did have higher grit scores than the physicians' mean grit value of 3.30 ± .33 (Reed *et al.*, 2012). Reed *et al.* (2012) concluded that rural and non-rural physicians in Idaho worked hard and persevered despite setbacks in order to remain successful. The physicians were considered ambitious whether they were satisfied or unsatisfied with their situation. It appears that the PT leaders in the present study also worked hard regardless of challenges faced in their lives. At times, when the PTs were unsatisfied with the status quo they encountered, grit helped the PT leaders find and take on leadership opportunities even with the presence of obstacles.

Similarly, the PT leaders in this study were found to be committed to their goals and were able to accomplish a great deal in their professional and personal lives. The qualitative data supports this idea. Many participants shared stories about obstacles and hardships they had faced in their journey toward long term goals. The participants commented that they were able to accomplish more than they ever dreamed possible such as starting a physical therapist assistant program and

Table 4: Leadership Roles Played by Participants

Role	% of Participants Who in Engaged in Role
APTA Member	100%
APTA Section Member	100%
Officer in APTA Section	29%
Board Member	14%
State Chapter Level Officer	14%
Clinic Owner	14%
Clinic Manager	29%
Senior Therapist	36%
Mentor	57%
Clinic Instructor	36%
Program Director	29%
Academic Professor	57%
Adjunct Professor	21%
Other (Global Health Educator, State Ethics Committee, District Officer, Finance Chair)	50%

Table 5: GPA and Grit Scores for Physical Therapists

	Minimum	Maximum	Mean	Standard Deviation	Cronbach α
GPA Undergrad	3.000	3.75	3.417	.326	-
GPA PT School	3.000	3.75	3.75	.345	-
Grit score	2.92	4.58	3.90	.47	.818

holding leadership positions within various organizations. Not only were they leaders in their profession, they were also leaders in their personal lives and communities. Boldness and openness with a growth mindset, self-reflection, learning from challenges, and importance of mentors were four themes present in the phenomenological interviews of the participants in this study. Many of the participants in this study were involved in a multitude of activities throughout their educational

and professional lives. They were able to embrace these opportunities and learn from obstacles in managing work-school-life balance in order to overcome future challenges.

A technique that the PT leaders utilized to overcome challenges was self-reflection. Participants described the self-reflection process of being honest with themselves, re-evaluating situations, and taking action to move forward based on their reflections. The power of reflection

Table 6: Average Grit Scores in Various Populations

Population of Interest for Article:	Average Grit Score:
Grit: Perseverance and Passion for Long-Term Goals (Duckworth et al., 2007)	
Study 1: Adults aged 25 and older	3.65 (SD 0.73)
Study 2: Adults aged 25 and older	3.41 (SD 0.67)
Study 3: Ivy League Undergraduates	3.46 (SD 0.61)
Study 4: West Point cadets in Class of 2008	3.78 (SD 0.53)
Study 5: West Point cadets in Class of 2010	3.75 (SD 0.54)
Study 6: National Spelling Bee finalists	3.50 (SD 0.67)
Association of “Grit” and Satisfaction in Rural and Nonrural Doctors (Reed et al., 2012)	
Rural Physicians	3.30 (SD 0.32)
Nonrural Physicians	3.29 (SD 0.34)
Primary Care Physicians	3.27 (SD 0.32)
Specialty Care Physician	3.31 (SD 0.34)
Rural Primary Care Physicians	3.29 (SD 0.35)
Rural Specialty Care Physicians	3.30 (SD 0.28)
Nonrural Primary Care Physicians	3.26 (SD 0.31)
Nonrural Specialty Care Physicians	3.31 (SD 0.36)
Very Satisfied/Satisfied Physicians	3.29 (SD 0.33)
Very Unsatisfied/Unsatisfied Physicians	3.29 (SD 0.31)
Staying the Course: Grit, Academic Success, and Non-Traditional Doctoral Students (Cross, 2013)	
1st Year Non-traditional Doctoral Students taking online courses	4.01 (SD 0.47)
2nd Year Non-traditional Doctoral Students taking online courses	3.96 (SD 0.49)
3rd Year Non-traditional Doctoral Students taking online courses	4.02 (SD 0.48)
Overall Non-traditional Doctoral Students taking online courses	4.00 (SD 0.48)
3rd Year Students: Successfully Defended their Dissertation Proposals	4.23 (SD 0.45)
3rd year Students: Not Successfully Defended their Dissertation Proposals	4.06 (SD 0.44)

Table 7: Qualitative Themes and Exemplars

Bold Openness with a Growth Mindset
<p>We had a shortage of qualified providers and clinics [were] using aides inappropriately and so I said, “I’m going to try to be the solution.” And so I agreed to start a program. Bill</p> <p>You know I’ve always understood that I can do things if I put my mind to them and if I really want to do them, I make a play and follow through with that plan. Lightening</p>
Self-Reflection is Important
<p>I would say that the person has to be pretty honest with themselves and be a good reflector and be the kind of person who can think back and figure out, re-tune, and move forward. Alice</p> <p>First I stop and say, ‘OK, what went wrong and why did it go wrong? Or try to figure out what is happening and why is it happening? Is it something I did? Or is it something in the environment where I have less control over it?’ So first trying to figure out is it me or is it external to me? I don’t know if you can truly separate the two but to the best that I can I try to figure that out. If it is something that I have control over, I try to make a difference to allow me to be more successful. If it’s something that I don’t have control over, then I have to sit back and look at what my options are. I don’t usually see a door as completely closed. Vanessa</p>
Learning from Challenges
<p>I started out in medical school and I went through two years of medical school and struggled mightily. . . I went back to medical school for a little bit because that’s not something that you just sort of give up on and just realized that was not going to be it for me. Then I just had no idea what to do. I then realized PT school was my path. Lightening</p> <p>At the time I went [to PT school] it was a Bachelor’s program and we were accepted as freshmen. And so it wasn’t that hard to get into type of thing. It was a hard to stay in kind of thing. It was hard not to get thrown out . . . I started off the semester with a 3/0 the first couple of semesters and then one of the things that I was most proud of was that every single semester my GPA went up. Sometimes not by a lot but I was somehow figuring out how to be a student. Jake</p>
Importance of Mentors
<p>A professor challenged me and the program director at the time said, “I think you need to back off because this is one of our students who is going to go somewhere and I think that is a very good endeavor. . . And that program director became my professional mentor. Alice</p> <p>My advisor was more like a Marine Drill Sergeant which was kind of what I needed at the time. I felt like I was kind of being picked on but after graduation I got to know him as a person. He was good at challenging me and saying, ‘Well, that’s not good enough. I know you can do better.’ I worked full-time through PT school. For all four years I worked 40 hours a week. I worked as a security guard. All midnights. If I lost my job, I couldn’t go to school...So the stakes are real high. And going back to the University support systems... My advisor knew all about this and absolutely broke the rules and said, ‘I am going to ignore this. I’m going to ignore the fact it you have a job.’ He was maybe not classic mentor but he was kind of more of a guardian. Yeah, he kind of really cleared the road for me and I never knew he was doing it until after the fact. Jake</p>

was a common theme utilized by participants in this study to identify which factors were within their control. This reflective process helped participants deal with positive and negative outcomes of experiences.

The importance of having a mentor was expressed by the PT leaders in this study. This finding is distinctive from the existing grit literature regarding health care professionals. Strayhorn (2013) discussed the importance

of mentors and supportive faculty relationships for success among undergraduate Black males at predominantly White colleges. Mentors influenced professional success throughout the lives of the PT leaders in this study. Additionally, the PT leaders believed their mentors challenged and nudged them toward ongoing growth.

Strengths and Limitations

Strengths of this phenomenological study included the Grit Scale itself due to strong psychometrics and multiple populations assessed in previous studies. The sample size for the survey in Phase I (n = 15) and for the interviews for Phase II (n = 5) are adequate sample sizes for a phenomenological study. The researchers achieved saturation after five interviews which provided a thick, rich description of grit among the PT leaders interviewed. The primary researcher who interviewed the participants (SGK) was experienced in phenomenological interview skills and appropriately bracketed out her experiences prior to the interviews. Finally, the primary researcher who interviewed the participants was not involved in the identification and analysis of themes in order to limit bias of results.

Several limitations exist in this study. The researchers acknowledge that the results of this study do not apply to every physical therapist leader. Another limitation lies in the small sample size. Although saturation was reached after five interviews for the qualitative analysis, the small sample size potentially prevented the researchers from finding any significant relationships between grit and undergraduate GPA or between grit and PT school GPA. Another challenge is that the Grit Scale is somewhat vulnerable to social desirability bias, meaning that some participants may answer questions in an attempt to impress and please the researchers. Additionally, the Grit Scale asks individuals to reflect on past experiences, implying that past behavior may predict future behavior (Duckworth et al., 2007). Finally, the Grit Scale survey is worded in the present tense, yet participants are asked to reflect back on a time when they experienced a difficult situation. Perhaps participants may not accurately recall their exact feelings due to the time lapse from the difficult situation.

FUTURE STUDY RECOMMENDATIONS

Future studies may shed a brighter light on grit qualities among PT leaders by linking to a grit-type task and studying PTs longitudinally. Examining grit among PT leaders versus those who are not in leadership roles

would be an area of interest. Another possible area for investigation would be to conduct a tracer study and follow several cohorts of students through PT school and into their careers to determine whether grit predicts qualities of future leaders. Since grit has been found to increase over time with life experiences (Duckworth et al., 2007; Duckworth et al., 2009; Singh et al., 2008) a longitudinal study may inform educational programs on how grit may be threaded into the curriculum for PT programs through reflection and mentorship opportunities.

CONCLUSIONS

The everyday lived experiences of the participants in this study indicated that these PT leaders embodied high levels of grit based on survey results. All participants were able to articulate how they remained focused on their long term goals despite facing difficult challenges. Gaining a better understanding of grit among PT leaders may influence the admissions process when admitting future PT students into academic programs. Coupling the Grit Scale survey with a challenging task during admissions may better predict future leaders than the Grit Scale alone and add diversity of talent to the physical therapy profession. Themes from the qualitative results indicate that professional development may be aided by developing confidence through gaining bold openness with a growth mindset. Reinforcing the importance of reflection and learning from challenges continues to be an important aspect in DPT curricula. Finally, opportunities for mentorship experiences before and after graduation may help students and new PTs transition into greater leadership roles in the profession.

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Appendix A: 12-item Grit Scale

1. I have overcome setbacks to conquer an important challenge.

5 = Very much like me

4 = Mostly like me

3 = Somewhat like me

2 = Not much like me

1 = Not like me at all

2. New ideas and projects sometimes distract me from previous ones.*

1 = Very much like me

2 = Mostly like me

3 = Somewhat like me

4 = Not much like me

5 = Not like me at all

3. My interests change from year to year.*

1 = Very much like me

2 = Mostly like me

3 = Somewhat like me

4 = Not much like me

5 = Not like me at all

4. Setbacks don't discourage me.

5 = Very much like me

4 = Mostly like me

3 = Somewhat like me

2 = Not much like me

1 = Not like me at all

5. I have been obsessed with a certain idea or project for a short time but later lost interest.*

1 = Very much like me

2 = Mostly like me

3 = Somewhat like me

4 = Not much like me

5 = Not like me at all

6. I am a hard worker.

5 = Very much like me

4 = Mostly like me

3 = Somewhat like me

2 = Not much like me

1 = Not like me at all

7. I often set a goal but later choose to pursue a different one.*

1 = Very much like me

2 = Mostly like me

3 = Somewhat like me

4 = Not much like me

5 = Not like me at all

8. I have difficulty maintaining my focus on projects that take more than a few months to complete.*

1 = Very much like me

- 2 = Mostly like me
- 3 = Somewhat like me
- 4 = Not much like me
- 5 = Not like me at all

9. I finish whatever I begin.

- 5 = Very much like me
- 4 = Mostly like me
- 3 = Somewhat like me
- 2 = Not much like me
- 1 = Not like me at all

10. I have achieved a goal that took years of work.

- 5 = Very much like me
- 4 = Mostly like me
- 3 = Somewhat like me
- 2 = Not much like me
- 1 = Not like me at all

11. I become interested in new pursuits every few months.*

- 1 = Very much like me
- 2 = Mostly like me
- 3 = Somewhat like me
- 4 = Not much like me
- 5 = Not like me at all

12. I am diligent.

- 5 = Very much like me
- 4 = Mostly like me
- 3 = Somewhat like me
- 2 = Not much like me
- 1 = Not like me at all

Scoring:

For questions 1, 4, 6, 9, 10, and 12 assign the following points:

- 5 = Very much like me
- 4 = Mostly like me
- 3 = Somewhat like me
- 2 = Not much like me
- 1 = Not like me at all

For questions 2, 3, 5, 7, 8, and 11 assign the following points:

- 1 = Very much like me
- 2 = Mostly like me
- 3 = Somewhat like me
- 4 = Not much like me
- 5 = Not like me at all