

**Does Grit Matter? An Examination of Motivation and Performance in National FFA
Career Development Events**

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Introduction/ Conceptual Framework

Each year, the National FFA Organization hosts 24 different Career Development Events (CDEs) ranging from agricultural communications to veterinary science (National FFA Organization, 2015). Given the popularity of these competitions among FFA members (Talbert & Balschweid, 2006) researchers have attempted to describe what motivates students to compete in CDEs (Croom, Moore, & Armbruster, 2009; Rayfield, Frazee, Brashears, & Lawver, 2009) while pleading for motivational measures to be connected to performance in the contest (Lancaster, Knobloch, Jones, & Brady, 2013).

Duckworth, Peterson, Matthews, and Kelly (2007) proposed the term *grit*, as a more global and long term measure of motivation as compared to self-control. They define grit as “the perseverance and passion for long-term goals” (p. 1087) careful to distinguish it from cognitive ability. Duckworth et al., (2007) argued talent alone does not achieve difficult goals, but goal attainment requires sustained and focused application of talent over time. Studies have linked grit to performance in spelling bees (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011), performance and retention of novice teachers (Robertson-Kraft & Duckworth, 2014), and graduation rates of USMA Cadets (Kelly, Matthews, & Bartone, 2014).

Purpose and Objectives

The purpose of this study was to investigate the grit of FFA competitors across a variety of national level CDEs. This purpose aligns with the AAAE National Research Agenda Priority Area 5: Efficient and Effective Agricultural Education Programs (Doerfert, 2011). The following research questions were addressed:

1. Is there a difference in grit among competitors of different types of National FFA CDEs?
2. What is the relationship between grit and performance at a National FFA CDE?

Methodology

Permission to conduct the survey was granted by the Institutional Review Board at NC State University and National FFA staff. The population for this study included all competitors participating in the 2015 Prepared Public Speaking, Nursery Landscape, and Livestock Judging CDEs at the 2015 National FFA Convention. The survey was administered at the end of the competition and had been pre-coded with competitor ID numbers in order to assign survey data to performance in the event.

As a measure of persistence, grit was assessed with the short version Grit scale ($\alpha = .83$) (Duckworth & Quinn, 2009). The instrument contained eight Likert-type items (1 = *not like me at all* to 5 = *very much like me*) that measured the two components of grit: consistency of interest and perseverance of effort. Demographic variables collected on competitors included: gender, current grade level, and race/ethnicity. Competitor performance was measured by individual emblem earned (gold/silver/bronze) in the respective contest. Coding for the three emblem types were as follows: gold = 3, silver = 2, and bronze = 1.

Results

Nearly all ($n = 349$) of the 372 competitors completed the survey for an overall response rate of 94% (prepared public speaking $n = 37/45$ (82%), nursery landscape $n = 137/151$ (91%), livestock judging $n = 175/176$ (99%)). The majority of survey respondents were female (60%), white (93%), and senior standing or graduated (61%). The motivational construct of grit showed acceptable measures of internal consistency ($\alpha = .77$).

Grit

Competitors of the Prepared Public Speaking CDE displayed the highest mean value of grit ($M = 4.09$, $SD = .36$, see Table 1). A one-way ANOVA displayed a significant difference between the three groups on overall mean grit (Table 2), with *post hoc* analysis confirming prepared public speaking competitors were grittier than the other two groups. No differences were found between nursery landscape and livestock judging competitors.

Table 1

National FFA CDE Competitor Grit Values (n = 339).

	<i>n</i>	<i>M</i>	<i>SD</i>
Prepared Public Speaking	37	4.09	.36
Livestock Judging	168	3.70	.86
Nursery Landscape	134	3.63	.55
Total	339	3.72	.55

Table 2

One-Way Analysis of Variance (ANOVA) of Grit Scores (n = 340)

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	2	5.94	2.97	10.37	.00
Within groups	338	96.84	.29		
Total	340	102.79			

Performance

Pearson correlations of all competitors showed no relationship between grit and performance ($r = .03$, $p = .55$). Further analysis revealed a similar absence of relationship between grit and performance for all three events measured.

Discussion/Implications

Results suggest competitors of the National FFA Prepared Public Speaking CDE (a leadership oriented CDE) are grittier than their counterparts in team-based livestock and nursery landscape events. Certainly, the prepared public speaking competition is an individual event that requires diligence and perseverance to master the speech and its delivery. Are grittier students drawn to individual CDEs more than they are to team CDEs? Future research should explore this question. Contrary to prior literature, however, grit had no relationship with performance, as measured by the gold, silver, and bronze rankings with this sample of FFA CDE competitors. Perhaps the highly selective nature of this population was reason that no significant differences were found between grit and performance. Perhaps the limitation of the three level rankings decreased the statistical power to discern actual differences in grit among team CDE competitors. Additional research is needed to further understand why grittier students are found in a public speaking CDEs, and why grit is not a predictor of CDE performance.

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