



Identifying Grit in Existing Personality and Other Individual Differences Taxonomies

Brandon Ferrell, Hogan Assessment Systems

This symposium was accepted and presented at the 2017 SIOP conference.

Summary Abstract

Grit (Duckworth, Peterson, Matthews, & Kelly, 2007) is the psychological construct du jour, increasingly discussed as a predictor of performance and other outcomes. Google Scholar citation estimates for the Duckworth et al. (2007) article increased from 139 citations in 2013 when Duckworth gave her TED Talk on grit, to 238 citations in 2014 and 398 citations in 2015. As of early September, Google Scholar estimates 271 citations in 2016. Duckworth and other proponents of this construct define grit as having two components: consistent long-term goals and the perseverance to strive to achieve them. Much of the literature on this topic focuses on how grit, as a new and unique concept, predicts success in a variety of settings from teaching (Duckworth, Quinn, & Seligman, 2009) to spelling bees (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011) and the military (Duckworth et al., 2007; Duckworth & Quinn, 2009).

However, few researchers have conducted analyses to determine whether grit stands apart as a unique construct or whether it repackages other well-known constructs. For example, few have explored similarities between grit and more well-established constructs including Conscientiousness (Dumfart, B., & Neubauer, A. 2016; Rimfeld, K., Kovas, Y., Dale, P., & Plomin, R., 2016). In this session, we fill that gap by providing a variety of examples of where grit is located in the construct spaces of personality and positive psychology, and how grit relates to personality, positive personality, and interest constructs.

First, **Marcus Credé** will introduce grit (Duckworth et al., 2007) as a psychological construct and discuss its popularity over the past decade as a predictor of success, particularly following Duckworth's (2013) TED Talk. People often see grit as a new construct and a significant predictor of performance across a variety of settings such as those listed above. Marcus will discuss the results from a meta-analysis of the relevant literature, examining relationships among grit, Five-Factor Model personality dimensions, and performance and incremental validity evidence for grit. Based on his findings, Marcus will also describe potential lines of future grit research to consider.

Second, **Ryne Sherman** will discuss his research locating grit in both Five-Factor Model personality and values/interests construct spaces. Ryne will describe his work using big data machine learning techniques such as genetic algorithms to examine the multivariate relationships between grit and the broad and narrow facets of FFM personality. Further, some research suggests that high-ambition—distinct from high-grit—individuals are less likely to value being recognized for their achievements or to desire being famous (Maltby et al., 2008). Along those lines, Ryne will present data to illustrate relationships between the dimensions of the grit scale and interests inventories.

Third, **Ted Paterson** will discuss the recent proliferation of new constructs in the positive psychology literature, including grit, psychological capital, thriving, flourishing, flow, proactive personality, and core self-evaluations, to empirically identify the degree of overlap or redundancy among these constructs. People describe many of these constructs as multidimensional. For example, grit proponents talk about the two dimensions of this construct, consistency of interests and perseverance. Ted will also discuss the implications of analyzing overlap at the construct level (e.g., grit) and the dimension level (e.g., perseverance).

Fourth, **Peter Harms** will discuss grit as it relates to the dark side of personality. People often discuss grit in exclusively positive terms, such that higher grit scores result in better outcomes (Duckworth 2016). Peter will suggest that is not unreasonable to think that grit also may have a dark side as an overused strength (Hogan & Hogan, 2009; Kaplan & Kaiser, 2009). Peter will present his researching examining the relationships between grit and two dark side measures, the Hogan Development Survey (HDS) and the Personality Inventory for DSM-IV (PID-5).

Finally, **Robert Hogan** will serve as our discussant. Robert Hogan is a pioneer in applied personality research and the president and founder of Hogan Assessment Systems. His research resulted in the development of the Hogan Personality Inventory (HPI; Hogan & Hogan, 2007), the first Five-Factor Model aligned personality assessment specifically designed for working adults; the Hogan Development Survey (HDS; Hogan & Hogan, 2009), the first non-clinical measure of dark side personality; and the Motives, Values, Preferences Inventory (MVPI; Hogan & Hogan, 2010) to measure core values and interests and how those constructs shape occupational choices in working adults.

Our goal in this symposium is to identify grit's place in several taxonomies such as FFM personality, positive psychology, dark side personality, and interests. As our research will consistently and convincingly demonstrate, grit is neither new nor unique as a construct.

References

- Duckworth, A.L. (2013). The key to success? Grit. Retrieved from https://www.ted.com/talks/angela_lee_duckworth_the_key_to_success_grit?language=en#t-9644
- Duckworth, A. (2016). *Grit: The power of passion and perseverance*. Scribner: New York, NY.
- Duckworth, A. L., Kirby, T. A., Tsukayama, E., Berstein, H., & Ericsson, K. A. (2011). Deliberate practice spells success why grittier competitors triumph at the national spelling bee. *Social Psychological and Personality Science*, 2(2), 174-181.
- 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, 1087-1101.
- 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.
- Duckworth, A. L., Quinn, P. D., & Seligman, M. E. (2009). Positive predictors of teacher effectiveness. *The Journal of Positive Psychology*, 4(6), 540-547.
- Dumfart, B., & Neubauer, A. C. (2016). Conscientiousness is the most powerful noncognitive predictor of school achievement in adolescents. *Journal of Individual Differences*, 37(1), 8-15.
- Hogan, R., & Hogan, J. (2007). *Hogan Personality Inventory manual* (3rd ed.). Tulsa, OK: Hogan Assessment Systems.
- Hogan, R., & Hogan, J. (2009). *Hogan Development Survey manual* (2nd ed.). Tulsa, OK: Hogan Assessment Systems.
- Hogan, R., & Hogan, J. (2010). *Motives, Values, Preferences Inventory manual: 2010 administrative and norming updates*. Tulsa, OK: Hogan Assessment Systems.
- Kaplan, R. & Kaiser, R. (2009). Stop overdoing your strengths. *Harvard Business Review*, 87, 100-103.
- Maltby, J., Day, L., Giles, D., Gillett, R., Quick, M., Langcaster-James, H., & Linley, P. A. (2008). Implicit theories of a desire for fame. *British Journal of Psychology*, 99, 279-292.
- Rimfeld, K., Ayorech, Z., Dale, P. S., Kovas, Y., & Plomin, R. (2016). Genetics affects choice of academic subjects as well as achievement. *Scientific Reports*, 6. doi: 10.1038/srep26373

A Meta-Analytic and Narrative Overview of Grit

Marcus Credé and Michael Tynan
Iowa State University

Peter D. Harms
University of Alabama

Few non-cognitive predictors of performance have attracted as much attention over the past decade as grit. Grit is defined as a higher-order trait comprised of two components: perseverance and consistency of interest. The proponents of grit have described it as the “secret to success” and as a better predictor of performance in work, academic, and military settings than cognitive ability, admissions test scores, and physical fitness. This enthusiasm for grit as a predictor is also reflected in a report by the US Department of Education that suggested that schools should consider implementing grit interventions to boost the academic performance of their students. In this paper, we aim to set the scene for the symposium by discussing three related issues. First, we briefly describe how grit attracted such widespread attention despite statistical errors in the original work on grit and misrepresentations of both the grit literature and the literature on predictors of performance and success in work and educational settings. Second, we review the findings from our meta-analysis of the grit literature (Credé, Tynan, & Harms, in press) to summarize the findings from almost 10 years of work on grit. Finally, we briefly suggest future research directions that are most promising for future researchers to consider.

The Development of Interest in Grit

Grit was first identified in the psychological literature in two papers by Angela Duckworth (Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Quinn, 2009) but these papers and the grit construct went largely unnoticed until 2013 when Duckworth recorded a highly regarded and widely viewed TED talk (Duckworth, 2013) and was awarded a MacArthur Fellowship for her work on grit. Part of grit’s appeal was the reported finding that grit was an outstanding predictor of success in a variety of settings, ranging from the West Point Military Academy, work settings, spelling bees, and academic settings. For example, Duckworth et al. (2007) claimed that West Point cadets with above-average levels of grit were 99% more likely to graduate than those with average levels of grit, with similar findings in Duckworth and Quinn (2009). Further, Duckworth (2016) has stated that her findings showed that grit “beats the pants off IQ, SAT scores, physical fitness and a bazillion other measures to help us know in advance which individuals will be successful in some situations.”

A closer examination of the findings of grit suggest three reasons why this enthusiasm may be unfounded. First, Duckworth et al. (2007) and Duckworth and Quinn (2009) confused odds ratios with probability. This led them to infer incorrectly that increased grit was associated with a 99% increase in the probability of graduating, when the real increase in probability is only 3%. Second, Duckworth and Quinn (2009) present confirmatory factor analysis findings for a grit model that is statistically unidentified but then use this model to argue for the presence of a higher-order factor. Third, the very favorable statements about

grit that were made by Duckworth in her TED talk (recorded April 2013) were made at a time when Duckworth was weeks away from submitting a paper (Eskreis, Winkler, Shulman, Beal, & Duckworth, 2014 – first submitted in May 2013) that showed that grit was largely unsuccessful at predicting success in a military setting, an academic setting, and in marriage, while cognitive ability, physical fitness, and admissions test scores predicted success very well.

Meta-Analytic Findings

Our meta-analysis of the grit literature was based on detailed searches of psychological and educational databases, supplemented by Google searches. Our final database included 73 studies representing data from 88 unique samples and 66,807 individuals.

Our meta-analytic estimate of the relation between perseverance and consistency ($\rho = .60$, $k = 17$, $N = 22,048$, $SD\rho = .21$), indicates a generally strong relationship, though the wide interval suggests the likely presence of moderators. The relationship of grit with performance was generally weak to modest, $\rho = .18$ for overall academic performance ($k = 39$, $N = 13,141$, $SD\rho = .11$) and $\rho = .17$ with an overall GPA criterion ($k = 37$, $N = 12,601$, $SD\rho = .10$). Perseverance was a much stronger predictor of academic performance ($\rho = .26$, $k = 11$, $N = 5,221$, $SD\rho = .12$) than was consistency of interest ($\rho = .10$, $k = 11$, $N = 5,221$, $SD\rho = .02$). Grit correlated with retention at $\rho = .12$ ($k = 11$, $N = 17,525$, $SD\rho = .09$).

We found grit to be largely independent of cognitive ability ($\rho = .05$, $k = 21$, $N = 11,513$, $SD\rho = .12$). Conscientiousness correlated very strongly with overall grit ($\rho = .84$, $k = 22$, $N = 18,826$, $SD\rho = .07$), with perseverance ($\rho = .83$, $k = 8$, $N = 4,967$, $SD\rho = .14$) and also with consistency ($\rho = .61$, $k = 8$, $N = 4,967$, $SD\rho = .17$). As a result, grit exhibited very little incremental validity in the prediction of academic performance over conscientiousness (i.e., $\Delta R = .004$). More incremental validity was evident for the perseverance facet. Grit also exhibited a very strong relation with self-control ($\rho = .72$, $k = 4$, $N = 2,615$, $SD\rho = .05$), itself a facet of conscientiousness (e.g., Roberts et al., 2005) and with emotional stability ($\rho = .41$, $k = 14$, $N = 14,501$, $SD\rho = .04$).

Directions for Future Research

Grit performs poorly as a predictor of success in comparison to many other non-cognitive variables. Though the initial enthusiasm for grit may have been misplaced, we do believe that some avenues of grit research are still worth pursuing. First, the perseverance facet may offer more utility than either consistency or overall grit. Second, a refinement of the measurement of grit may increase the value of either facet. Third, it may be helpful to examine if the value of grit is moderated by task characteristics (e.g., creative versus production tasks) or by the level of grit (e.g., curvilinear effects).

References

- Credé, M., Tynan, M., & Harms, P.D. (in press). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*.
- Duckworth, A.L. (2013). The key to success? Grit. Retrieved from https://www.ted.com/talks/angela_lee_duckworth_the_key_to_success_grit?language=en#t-9644
- 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.
- 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.
- Eskreis-Winkler, L., Duckworth, A. L., Shulman, E. P., & Beal, S. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology*, 5. doi:10.3389/fpsyg.2014.00036
- Roberts, B.W., Chernyshenko, O.S., Stark, S., & Goldberg, L.R. (2005). The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Personnel Psychology*, 58, 103-139.

Locating Grit within the Hogan Assessment Instruments

Ryne A. Sherman
Florida Atlantic University

Brandon Ferrell
Hogan Assessment Systems

Grit, defined as the perseverance and passion for long-term goals (Duckworth et al., 2007), is argued to be distinguishable from a host of personality characteristics including self-control, need for achievement, and ambition (Duckworth & Gross, 2014). Grit has been similarly distinguished from a tendency to seek fame or recognition for achievements (Maltby et al., 2008). That is, while gritty individuals desire to win and succeed, they are not hypothesized to do so for reasons of fame and recognition. Because grit has been linked to career outcomes and long-term goal achievement, it is essential for I/O psychologists to empirically evaluate the claims that grit is distinguishable from personality characteristics that I/O psychologists have long measured. As such, we attempted to locate the grit construct within ordinary workplace personality assessments, namely the Hogan suite of personality and interest assessments (HPI and MVPI, respectively).

Method

Participants

Three-hundred sixty Mechanical Turk (MTurk) workers completed a host of personality measures as part of a mini-longitudinal data collection project organized by Hogan Assessment Systems. Research indicates that MTurk provides a viable means for collecting data relating to a range of constructs such as empathy (Johnson & Borden, 2012), body image (Gardner, Brown, & Boice, 2012), and narcissism (Carlson, 2013; Greenwood, Long, & Dal Cin, 2013; Miller, Gentile, Wilson, & Campbell, 2013). The MTurk workers were 55% female and 45% male, with an average of 34 years ($SD = 10.2$ years). We compensated participants at a rate of \$8 per hour for completing the study.

Measures

Short Grit Scale. Participants completed a 10-item version of the grit scale (Duckworth et al., 2007) using a 1 (Not like me at all) to 5 (Very much like me) Likert-type response scale. The internal consistency was $\alpha = .89$, with $M = 3.69$ ($SD = .74$).

Hogan Personality Inventory. The Hogan Personality Inventory (HPI; Hogan & Hogan, 2007) was the first personality assessment in the normal range of assessment specifically designed to predict workplace performance. The most recent version of the HPI contains 206 true/false statements. Responses on the HPI are typically scored into seven higher-order dimensions (e.g., Ambition; see Table 1 for scale names and definitions), but can also be scored on 41 homogeneous item clusters (HICs; e.g., Mastery, Sensitivity, Competitiveness) consisting of 3-6 items in each. The present study examines the association between grit and the HPI at both the higher-order and lower order (HIC) levels to provide clarity about the location of grit within the personality domain.

Motives, Values, Preferences Inventory. The Motives, Values, Preferences Inventory (MVPI; Hogan & Hogan, 2010) measures individual differences in 10 core values (e.g., Affiliation, Power, Recognition) found across a broad spectrum of human cultures. The current version of the MVPI consists of 200 statements rated on a three-point (1 = Disagree, 2 = Uncertain, 3 = Agree) Likert-type scale. Of most import here, the Power scale of the MVPI is directly associated with a desire to win, to achieve, and to get ahead. The Recognition scale, on the other hand, is directly associated with a desire to be famous, well-known, and recognized. Based upon the theoretical arguments for grit, we would therefore expect Power to be positively associated with grit, while Recognition ought to remain largely unassociated with grit.

Results and Discussion

Grit correlated strongly with the seven-factor structure of the HPI at both the bivariate and multivariate levels (see Table 2). The adjusted multiple $R = .65$, indicating high correspondence between grit and the HPI scales. As seen in Table 2, Ambition, Prudence, and Adjustment were the largest predictors at the bivariate and multivariate levels of analysis.

At the HIC level, we employed a variety of big data model-building techniques (e.g., machine learning, genetic algorithms) with cross-validation to better locate grit within the measurement space of the HPI. The best-fitting models correlate with grit at $R \approx .70$ in cross-validated samples, indicating that grit is largely contained within the HPI measurement space. At the HIC level, the strongest multivariate predictors of grit were Mastery (Prudence scale; $\beta = .26$), Impulse Control (Prudence; $\beta = .22$), Even Tempered (Adjustment; $\beta = .21$), Identity (Ambition; $\beta = .18$), Calmness (Adjustment; $\beta = .18$), Leadership (Ambition; $\beta = .16$), and Moralistic (Prudence; $\beta = .15$). Overall, these results indicate that grit is largely contained within the HPI factor space and, despite arguments to the contrary, empirically grit is composed of self-control, need for achievement, and ambition.

Table 3 displays the bivariate and multivariate relationships between the MVPI scales and grit. Consistent with associated theory, grit is positively associated with Power and essentially unassociated with Recognition at the bivariate level. Interestingly, at the multivariate level, Recognition is negatively associated with grit suggesting that, given their overall interest in getting ahead, winning, and achieving, gritty individuals do indeed have a relatively low interest in being famous, well-known, and recognized.

Overall, the findings here indicate that grit is well-recovered by workplace measures of personality, namely the Hogan Personality Inventory. More importantly, and contrary to the arguments for its basis, grit is largely captured by measures of ambition, self-control, and achievement striving. However, the theory surrounding grit does not appear to be completely wrong, as we did find evidence that grit is not related to a desire to be recognized, famous, and well-known. In fact, the evidence found here suggests that, given their likely level of achievement, gritty individuals actually score lower than expected on their desire for recognition.

References

- Carlson, E. N. (2013). Honestly arrogant or simply misunderstood? Narcissists' awareness of their narcissism. *Self and Identity, 12*, 259-277.
- Duckworth, A. L., & Gross, J. J. (2014). Self-control and grit: Related but separable determinants of success. *Current Directions in Psychological Science, 23*(5), 319-325.
- 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.
- Gardner, R. M., Brown, D. L., & Boice, R. (2012). Using Amazon's Mechanical Turk website to measure accuracy of body size estimation and body dissatisfaction. *Body Image, 9*, 532-534.
- Greenwood, D., Long, C. R., & Dal Cin, S. (2013). Fame and the social self: The need to belong, narcissism, and relatedness predict the appeal of fame. *Personality and Individual Differences, Jun 6, 2013*, No Pagination Specified. Doi: 10.1016/j.paid.2013.04.020
- Hogan, R., & Hogan, J. (2007). *Hogan Personality Inventory Manual*. Tulsa, OK: Hogan Press.
- Hogan, R., & Hogan, J. (2010). *Motives, Values, Preferences Inventory Manual*. Tulsa, OK: Hogan Press.
- Johnson, D. R., & Borden, L. A. (2012). Participants at your fingertips: Using Amazon's Mechanical Turk to increase student-faculty collaborative research. *Teaching of Psychology, 39*, 245-251.
- Maltby, J., Day, L., Giles, D., Gillett, R., Quick, M., Lancaster-James, H., & Linley, P. A. (2008). Implicit theories of a desire for fame. *British Journal of Psychology, 99*, 279-292.
- Miller, J. D., Gentile, B., Wilson, L., & Campbell, W. K. (2013). Grandiose and vulnerable narcissism and the DSM-5 pathological personality trait model. *Journal of Personality Assessment, 95*, 284-290.

Table 1

HPI Scale Names and Definitions

Scale	Seeming...
Adjustment	calm and self-accepting (<i>emotional stability</i>)
Ambition	socially self-confident, leader-like, competitive (<i>extraversion</i>)
Sociability	to need or enjoy interacting with others (<i>extraversion</i>)
Interpersonal Sensitivity	perceptive, tactful, and socially sensitive (<i>agreeableness</i>)
Prudence	conscientious, conforming, and dependable (<i>conscientiousness</i>)
Inquisitive	bright, creative, and interested in intellectual matters (<i>openness</i>)
Learning Approach	to enjoy learning for its own sake (<i>openness</i>)

Table 2

Bivariate and Multivariate Associations between the HPI and Grit

Scale	<i>r</i>	β	<i>sr</i>
Adjustment	.54***	.24***	.16**
Ambition	.50***	.41***	.31***
Sociability	.08	-.16**	-.11*
Interpersonal Sensitivity	.34***	-.03	-.02
Prudence	.38***	.20***	.15**
Inquisitiveness	.20***	.06	.05
Learning Approach	.31***	.10*	-.09

Note. N = 330. Model-adjusted *R* = .65. β = standardized beta, *sr* = semi-partial correlations controlling for other HPI scales. *** $p < .001$, ** $p < .01$, * $p < .05$.

Table 3

Bivariate and Multivariate Associations between the MVPI and Grit

Scale	<i>r</i>	β	<i>sr</i>
Aesthetic	-.10	-.11*	-.10
Affiliation	.25***	.27***	.20***
Altruistic	.25***	.10	.08
Commercial	.18**	.04	.03
Hedonistic	-.05	-.19**	-.14*
Power	.27***	.32***	.20***
Recognition	-.03	-.23**	-.16**
Scientific	.14*	.04	.04
Security	.11*	.07	.06
Tradition	.19***	.06	.05

Note. N = 321. Model-adjusted *R* = .46. β = standardized beta, *sr* = semi-partial correlations controlling for other HPI scales. *** $p < .001$, ** $p < .01$, * $p < .05$.

Grit and the Proliferation of Positive Constructs

Ted A. Paterson
Oregon State University

Peter D. Harms
University of Alabama

The social sciences in general and the organizational sciences in particular have come under criticism for construct proliferation. As early as 1927, Kelley warned of the dangers of the “jangle fallacy,” wherein two phenomena are assumed to be different because they have distinct names. More recently, scholars have accused newly-introduced constructs of similar redundancy by invoking the phrase “old wine in new bottles” (e.g., Friedman, 1991; Spell, 2001). It appears that the likelihood of rampant construct proliferation is increased when multiple scholars are pursuing similar research questions in an independent fashion without much collaboration or communication between them (see for example the research on proactivity; Tornau & Frese, 2013). Such conditions may exist in the literature dealing with positive constructs in the organizational sciences as the two primary streams of research in the positive organizational literature, positive organizational scholarship (POS) and positive organizational behavior (POB), have developed largely in parallel with very few studies that attempt to link or integrate findings across these distinct domains (Paterson, Luthans, & Jeung, 2014; Roberts, 2006). As a result of this and other factors, the positive organizational literature has seen a fairly rapid increase in the number of constructs introduced into the literature in the past ten years. The purpose of this study is to use empirical means to reveal the degree to which there is overlap between these “new” constructs.

One such positive construct that has received a lot of media attention of late is grit (Duckworth, 2016). As the subtitle of the recently-released book indicates, grit is defined as “perseverance and passion for long-term goals” (Duckworth, Peterson, Matthews, & Keely, 2007, p. 1087). This definition, however, seems to imply some conceptual overlap with constructs such as hope, defined as both the combination of goal-directed determination and planning of ways to meet goals (Snyder et al., 1991), and resilience, or the maintenance of positive adaptation despite experiences of significant adversity (Luthar, Cicchetti, & Becker, 2000), among others. In fact, recent meta-analytic evidence has shown that grit has a very high correlation with other personality constructs such as conscientiousness ($\rho = .84$) and self-control ($\rho = .72$; Credé, Tynan, & Harms, in press). This recent empirical evidence suggests that perhaps the grit construct also has significant conceptual and empirical overlap with other constructs.

In an effort to assess the degree to which scholars should be concerned with construct proliferation in the positive organizational literature in general and the grit literature specifically, we conducted a survey-based study that included numerous positive constructs. Among these are psychological capital, thriving, flourishing, flow, proactivity, core self-evaluations (CSE), and grit.

Methods

The participants in this study were 828 working adults in the United States who agreed to complete a web-based survey as part of Mechanical Turk, which consisted of various positive constructs as well as demographic questions. The average age of participants was 33 (SD = 10.81) and the sample was 52% female and 48% male.

Measures used in the study were all previously published, and evidence for their validity has been provided in prior publications. We utilized Duckworth, Peterson, Matthews, and Kelly's (2007) 12-item measure of grit, Luthans, Avolio, Avey, and Norman's (2007) 12-item measure of psychological capital, Porath, Spreitzer, Gibson, and Garnett's (2012) 10-item measure of thriving, Diener et al.'s (2010) 8-item measure of flourishing, Jackson, Martin, and Eklund's (2008) 8-item measure of flow, Bateman and Crant's (1993) 10-item measure of proactive personality, and Bono and Judge's (2003) 12-item measure of core self-evaluations.

Results

Correlations and scale reliabilities are presented in Table 1. In general, the correlations between the positive constructs included in the study are quite high. This is not only true of the relationship between grit and the other positive constructs, but in the relationship between each of the positive constructs generally. The lowest correlation is between thriving and grit ($r = .37$) whereas the highest correlation is between PsyCap and CSE ($r = .73$). Even this lowest correlation of .37 is greater than all but 15% of correlations reported in meta-analyses published in the OB/I-O domains (Paterson, Harms, Steel, & Credé, 2016). The highest correlations for grit were between PsyCap ($r = .52$) and CSE ($r = .57$), both of these correlations are greater in magnitude than all but 5% of reported correlations (Paterson et al., 2016).

Table 2 presents correlations corrected for attenuation. As can be seen, when the correlations are corrected for measurement error, the relationship between the positive constructs in this study are increased such that the distinctiveness of the constructs is even more questionable.

However, when the construct of grit was separated into its two dimensions, consistency and perseverance, it becomes clear that the perseverance dimension is driving these high correlations, whereas the consistency dimension seems to be tapping into something that is not represented in these other popular positive constructs. In fact, in most cases, the consistency dimension was uncorrelated with all other study variables, whereas the perseverance dimension was highly correlated with each.

Conclusion

Based on this admittedly preliminary analysis, it appears that there is cause for concern as it relates to construct proliferation in the positive organizational literature. Moreover, many of the constructs we studied are viewed as multi-dimensional constructs. This is important because when we conducted analyses at the dimension level rather than the construct level we actually found that many of the dimensions have very little overlap with other constructs,

but when combined into the overarching construct the level of similarity is high. For example, when analyzing the relationship between thriving (learning + vitality) and grit (consistency + perseverance) the data show that the learning dimension of thriving and the consistency dimension of grit are quite unique when compared with the other positive constructs in the dataset. However, the vitality and perseverance dimensions correlate highly with each other and with the other positive constructs in the dataset. Thus, the positive organizational literature might be well served to analyze these constructs at the dimension level rather than assuming the existence of a higher-order construct.

References

- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior*, *14*(2), 103-118.
- Bono, J. E., & Judge, T. A. (2003). Core self-evaluations: A review of the trait and its role in job satisfaction and job performance. *European Journal of Personality*, *17*(S1), S5-S18.
- Credé, M., Tynan, M.C., & Harms, P.D. (in press). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, *97*(2), 143-156.
- 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.
- Duckworth, A. (2016). *Grit: The power of passion and perseverance*. Scribner: New York, NY.
- Friedman, M. (1991). Old wine in new bottles. *The Economic Journal*, *101*(404), 33-40.
- Jackson, S. A., Martin, A. J., & Eklund, R. C. (2008). Long and short measures of flow: The construct validity of the FSS-2, DFS-2, and new brief counterparts. *Journal of Sport & Exercise Psychology*, *30*(5), 561.
- Kelley, T.L. (1927). *Interpretation of Educational Measurement*. World Books: Yonkers-on-Hudson, NY.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, *60*(3), 541-572.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, *71*(3), 543-562.
- Paterson, T. A., Luthans, F., & Jeung, W. (2014). Thriving at work: Impact of psychological capital and supervisor support. *Journal of Organizational Behavior*, *35*(3), 434-446. doi: 10.1002/job.1907.
- Porath, C., Spreitzer, G., Gibson, C., & Garnett, F. G. (2012). Thriving at work: Toward its measurement, construct validation, and theoretical refinement. *Journal of Organizational Behavior*, *33*(2), 250-275.
- Roberts, L. M. (2006). Shifting the lens on organizational life: The added value of positive scholarship. *Academy of Management Review*, *31*(2), 292-305.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., ... & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, *60*(4), 570-585.
- Spell, C. S. (2001). Management fashions: Where do they come from, and are they old wine in new bottles? *Journal of Management Inquiry*, *10*(4), 358-373.
- Tornau, K. & Frese, M. Construct clean-up in proactivity research: A meta-analysis on the nomological net of work-related proactivity concepts and their incremental validities. *Applied Psychology: An International Review*, *62*(1), 44-96.

Table 1

Correlations and Internal Consistency Reliabilities

	1	2	3	4	5	6	7
1. PsyCap	.91						
2. CSE	.73**	.88					
3. Flow	.68**	.52**	.92				
4. Thriving	.58**	.50**	.51**	.93			
5. Flourishing	.65**	.71**	.55**	.57**	.92		
6. Proactive Personal.	.68**	.50**	.63**	.49**	.59**	.92	
7. Grit	.52**	.57**	.42**	.37**	.43**	.45**	.71

Note: Alpha coefficient internal consistency reliabilities are presented on the diagonal.

Table 2

Corrected Correlations

	1	2	3	4	5	6	7
1. PsyCap	.91						
2. CSE	.82**	.88					
3. Flow	.74**	.58**	.92				
4. Thriving	.63**	.55**	.55**	.93			
5. Flourishing	.71**	.79**	.60**	.62**	.92		
6. Proactive Personal.	.74**	.56**	.68**	.53**	.64**	.92	
7. Grit	.65**	.72**	.52**	.46**	.53**	.56**	.71

Note: Alpha coefficient internal consistency reliabilities are presented on the diagonal.

The Dark Side of Grit

P.D. Harms
University of Alabama

Like many so-called character strengths, grit is presented as a personality characteristic where higher levels are almost always associated with increased levels of success and well-being (Duckworth, 2016; Park, Peterson, & Seligman, 2004). At the same time, it is not hard to see how grit or its constituent components, consistency of interests and perseverance, could potentially be dysfunctional at extreme levels. Specifically, the single-minded devotion to a particular pursuit could be seen as debilitating if an individual were not particularly well-suited to that task, if the chances of success due to external factors meant success was impossible, or if the individual were not capable of improving themselves over time. Excessive “grit” may, in fact, be associated with, or even caused by, destructive impulses.

The idea that “strengths” may have a dark side is not entirely new. In the personality literature, it has been suggested that many normal personality traits (i.e., Big Five) may be destructive when taken to extremes (Judge, Piccolo, & Kolsalka, 2009). There is some evidence to this effect (e.g., Coker, Samuel, & Widiger, 2002). In addition, there is a growing literature within the strengths literature itself, suggesting that over-applying one’s strengths in the workplace is often associated with lower levels of performance (Kaiser, 2014; Kaplan & Kaiser, 2009).

As for grit itself, there has been little or no validation work conducted to date that documents how—if at all—grit is associated with personality derailers found in the “dark personality” literature (Spain, Harms, & LeBreton, 2014). In addition, although there is substantial evidence to show that grit, or at least its perseverance subdimension, is largely a subdomain of trait conscientiousness (see Credé, Tynan, & Harms, in press), there have been no studies examining whether personality derailers account for additional variance in grit beyond the Big Five. The present study aims to address the question as to whether grit is associated with destructive traits. Specifically, as a strength, our expectation is that grit will generally be associated with lower levels of personality derailers. However, derailers related to grandiose self-views (narcissism) or dysfunctional levels of effort (obsessive-compulsiveness) may be positively related to grit.

Methods

Using two samples, one online (N = 330) and one student (N = 92), we assess the relationship between grit (Duckworth, Peterson, Matthews, & Keely, 2007) and personality derailers as assessed by the Hogan Development Survey (HDS; Hogan & Hogan, 2009). The HDS is well-suited for this type of analysis as it assesses a wide variety of personality derailers and has non-obvious item content, so that respondents are unaware as to its purpose. The student sample also included the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012) to assess more pathological traits.

Results

As expected, grit was positively associated with Diligent (obsessive-compulsive tendencies; $r_{online} = .31$; $r_{student} = .24$) and negatively associated with most other personality derailers in the HDS in both samples. The relationship with Bold (overconfidence and strong feelings of entitlement) was mixed ($r_{online} = .21$; $r_{student} = -.23$). Supplemental analyses of the derailer subfacets suggested that the Fantasized Talent ($r_{online} = .22$) and Overconfidence ($r_{online} = .30$) subfacets of the Bold scale were most responsible for the positive relationship to grit. Moreover, Colorful (tendency to engage in attention-seeking behaviors) showed an overall non-relationship with grit due to the scale's subfacets associating with grit in opposing directions. Analyzing grit at the subdimensional level also provided additional evidence for Credé et al.'s (in press) claim that consistency of interests and perseverance are distinct and should not be aggregated into an overall factor. Specifically, the Mischievous, Colorful, and Imaginative derailers demonstrated positive relationships with perseverance, but negative relationships with consistency of interests.

There were no significant positive correlations between grit and any DSM-5 traits. However, 13 of the 25 DSM-5 disorders did show significant negative relationships with grit. Additional analyses indicated that personality derailers accounted for approximately 10-11% additional variance in grit scores and the grit subdimensions, beyond the Big Five personality traits.

Conclusion

Our results broadly demonstrate that, like most strengths, higher levels of grit are generally associated with lower levels of dark personality, as measured by the HDS personality derailers, and by clinical scales, based on the DSM-5 framework. This suggests that, in general, individuals with high levels of grit do tend to avoid engaging in dysfunctional thoughts and behaviors. That said, there was also evidence that particular dark traits were positively associated with grit. Specifically, Diligent, a trait associated with being overly precise and perfectionistic, was consistently associated with higher levels of grit even after controlling for both the Big Five and other derailers. Moreover, scoring highly on the grit scale may be reflective of narcissistic tendencies. This has implications for both the measurement of grit and the interpretation of grit scores. On the whole, there does seem to be some evidence for the suggestion that one should use caution when promoting "gritty" behaviors. Although they may be the result of a hard-working personal ethic or a personal interest, there is evidence that they can also be associated with a destructive, perfectionistic impulse. A more realistic and moderate approach is warranted.

References

- Coker, L., Samuel, D., & Widiger, T. (2002). Maladaptive personality functioning within the Big Five and the Five-Factor Model. *Journal of Personality Disorders, 16*, 385-401.
- Credé, M., Tynan, M.C., & Harms, P.D. (in press). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*.
- Duckworth, A. (2016). *Grit: The power of passion and perseverance*. Scribner: New York, NY.
- 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.
- Hogan, R., & Hogan, J. (2009). *Hogan Development Survey manual* (2nd ed.). Tulsa, OK: Hogan Press.
- Judge, T., Piccolo, R., T. Kosalka. (2009). The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *The Leadership Quarterly, 20*, 855-875.
- Kaiser, R. (2014). The fundamental weakness of strengths. *The Talent Quarterly, 1*, 1-14;33.
- Kaplan, R. & Kaiser, R. (2009). Stop overdoing your strengths. *Harvard Business Review, 87*, 100-103.
- Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine, 42*, 1879-1890.
- Park, N., Peterson, C., & Seligman, M. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology, 23*, 603-619.
- Spain, S.M., Harms, P.D. & LeBreton, J. (2014). The dark side of personality at work. *Journal of Organizational Behavior, 35*, 41-60.

Participant List (in alphabetical order)

Marcus Credé, Ph.D. (Presenter)

SIOPI Status: Member
Assistant Professor
Department of Psychology
Iowa State University
Lagomarcino Hall W107
Ames, IA 50011
Phone: (515) 294-7462
mcrede@iastate.edu

Brandon Ferrell, Ph.D. (Chair)

SIOPI Status: Member
Research Consultant
Hogan Assessment Systems
11 South Greenwood Avenue
Tulsa, OK 74120
(918) 749-0632
bferrell@hoganassessments.com

Peter Harms, Ph.D. (Presenter)

SIOPI Status: Member
Assistant Professor
Department of Management
University of Alabama
361 Stadium Dr., #131
Tuscaloosa, AL 35487
Phone: (205) 348-2769
pdharms@cba.ua.edu

Robert Hogan, Ph.D. (Discussant)

SIOPI Status: Fellow
President and Founder
Hogan Assessment Systems
11 S. Greenwood Ave.
Tulsa, OK 4120
Phone: (98) 749-0632
robert@hoganassessments.com

Ted Paterson, Ph.D. (Presenter)

SIOPI Status: Nonmember
Assistant Professor
College of Business
Oregon State University
352 Austin Hall
Corvallis, OR 97331
Phone: (541) 737-6646
ted.paterson@oregonstate.edu

Ryne Sherman, Ph.D. (Presenter)

SIOPI Status: Member
Associate Professor
Department of Psychology
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33433
Phone: (561) 297-3382
rsherm13@fau.edu

Michael Tynan (Co-author)

SIOPI Status: Nonmember
Graduate Student
Department of Psychology
Iowa State University
Lagomarcino Hall W107
Ames, IA 50011