

GRIT MEASUREMENT EVALUATION

By

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DEDICATION

To my parents, sisters, and nephews

Sabr — صَبْرٌ

ABSTRACT

This study explored the Grit-O Scale's factors, structure, and potential gender or racial differences with the measurement tool. The results identified traits correlated with Grit-O revealing relationships with perseverance, toughness, adaptability, and goal commitment. Confirmatory factor analysis confirmed that a two-factor structure requiring modifications is an adequate fit model. Grit-O showed no significant relationship with vocabulary IQ, indicating independence from cognitive ability. A Welch's T-Test and ANOVA suggested no significant gender or racial differences in Grit scores. Future research could use these findings to improve the Grit-O model and understand the concept better. Practitioners could potentially employ the Grit-O tool in selection and interventions and predicting job success. However, ethical considerations are essential to proceed. Further research should address limitations and explore a more diverse sample to gain more knowledge of the application of the Gri-O measure.

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CHAPTER 1: LITERATURE REVIEW

Introduction

Anticipating and predicting how employees will perform in the workplace is critical for organizations, especially after the unexpected global pandemic. Identifying and selecting high achievers with extraordinary stamina and capable of fulfilling long-term goals sounds like a golden ticket for organizations. In searching for employees with such characteristics, many have sought to find employees with “grit.” American psychologist Angela Duckworth coined the term Grit as a non-cognitive trait defined as “perseverance and passion for long-term goals” (Duckworth et al., 2007b). In 2013, Duckworth delivered a Ted Talk about “Grit” (*Grit: The Power of Passion and Perseverance* / Angela Lee Duckworth - YouTube, 2013). Duckworth also suggested that Grit entails working vigorously toward challenges while maintaining effort over time despite hardship (Duckworth et al., 2007b). The original Grit scale was developed to measure two factors: an individual’s ability to sustain effort when faced with adversity (perseverance of effort) and consistency of interest over time (Duckworth et al., 2007b). In a meta-analytic synthesis of Grit literature, authors stated there are assertions that Grit is composed of perseverance and consistency facets and that the Grit scores from these facets are highly predictive of success (Credé et al., 2017). Based on the further findings in the meta-analysis, the authors suggest that the validity of the assertions that Grit is a better predictor than other variables, such as cognitive ability, needs to be revisited (Credé et al., 2017). The original Grit scale aided in developing a shorter Grit measurement tool. Both scales are relatively short leading experts to question the likelihood that both measures are good at assessing low, medium, and high levels of Grit due to a lack of depth in item content (Credé et al., 2017). In other research, there were inconsistencies with the

results of factor structures and reliabilities when using the original Grit scale developed by Duckworth (van Zyl et al., 2020). Because of the inconsistencies with factors structures, there is a persistent and important question about what Grit is and what are the factors of Grit. Lastly, findings strongly suggest that revision of the Grit scale and relevant sub-facets and better definitions of the constructs it is assessing may hold value in increasing the predictive ability to identify top performers (Credé et al., 2017).

What is Grit?

Psychologists have been encouraged by William James to address two things “What are the types of human abilities?” and “By what diverse means do individuals unleash these abilities?” (Duckworth et al., 2007b; James & Sedgwick, 1907).

Duckworth focused her research on the second question after claiming that there is already a great deal of information on types of human abilities such as intelligence, and general mental ability (Duckworth et al., 2007b). She wanted to focus on the *why* when it came to how some individuals accomplished more than others while having similar abilities (i.e., intelligence) and a way to identify them. Thinking of various attributes of high-achieving individuals, Duckworth, and her colleagues claimed there is a personal quality shared by prominent leaders: Grit (Duckworth et al., 2007b).

Duckworth defines Grit as a non-cognitive trait of perseverance and passion for long-term goals while working strenuously towards challenges and maintaining effort and interest (Duckworth et al., 2007). Grit emphasizes an individual's stamina to pursue a goal (Willingham, 2006). Being a gritty individual means that the person demonstrates behaviors suggesting that they are committed to a long-term goal(s) and pursuing a commitment to the goal(s) over the course of years (Willingham, 2006).

Although a person may experience adversity or challenges, Grit is one's willingness to stay consistent and passionate towards their commitment (Willingham, 2006).

Duckworth et al. operationally defined Grit as two factors, consistency of interest (CI) and perseverance of effort (PE; Duckworth et al., 2007b). CI describes one's ability to maintain the same goal over long periods, and PE describes one's ability to continue to work towards their goal despite setbacks (Duckworth et al., 2007a; Gonzalez et al., 2019). Duckworth et al. claims that these two factors make up Grit collectively and account for an individual's capacity to continue to maintain and work towards a self-defined goal over an extended period, even when setbacks are experienced.

Duckworth et al. assert that individuals who have Grit (i.e., those that are gritty) are undeterred by disappointment, boredom, or indications to abandon their pursuits; instead, they stay on course (Duckworth et al., 2007a). Through their research, Duckworth and colleagues developed an original Grit measurement tool to capture the non-cognitive trait. The Grit-Original scale comprises 12 items; six to capture consistency of interest and six to capture perseverance of effort (Duckworth et al., 2007b). Many experts have criticized and questioned the concept of Grit because of its similarity to concepts like resilience, perseverance, conscientiousness, passion, and more (Credé, 2018; Datu et al., 2017; Gonzalez et al., 2019; Muenks et al., 2017; Ponnock et al., 2020; Singh & Chukkali, 2021). In addition, to the similarity with other constructs, Duckworth tends to interchange a lot of the terminology when talking about what Grit encompasses, leading to more questions and concerns.

During a conversation on Grit, Duckworth states that one-half of the Grit scale has questions about "responding to resiliency to situations of failures and adversity or being a hard worker" (PE) and that the other half has questions "about having consistent interests—focused passions— over a long time" (CI; Perkins-Gough &

Duckworth, 2013). Through this conversation, Duckworth uses resiliency in place of perseverance. Resilience has a variety of definitions and refers to an individual's mental ability to overcome after experiencing some sort of adversity or challenges (Stoffel & Cain, 2018). Using resiliency in place for perseverance during this conversation introduces new potential traits that Grit is supposed to capture. In the conversation, Duckworth says that part of being gritty is to be resilient, although that is not the only trait needed to be gritty (Perkins-Gough & Duckworth, 2013). Duckworth states that resilience is a vital aspect of Grit, as an individual's resiliency enables individuals to bounce back from failures (Perkins-Gough & Duckworth, 2013; Stoffel & Cain, 2018). Through Duckworth's conversation, the factor of perseverance of effort becomes a broader dimension that now incorporates concepts such as resiliency.

However, Grit is not merely the ability to bounce back from adversity; it is the combination of resilience and deep commitment to one's goals, demonstrated through loyalty in pursuit of them over extended periods of time (Perkins-Gough & Duckworth, 2013). The factor of consistency of interest is incorporated with theories of passion through conversation and literature. Although Duckworth et al. includes "passion" in the definition of Grit, other researchers have claimed that there is no supported research for passion equating to consistency of interest (Jachimowicz et al., 2018). Throughout the publication on Grit, the word "passion" appears in the definition, title, and introduction (Duckworth et al., 2007b). Duckworth et al. equate passion and consistency of effort in their research when developing the Grit measurement tool while giving no official definition as to what is consistency of effort or passion (Duckworth et al., 2007b; Jachimowicz et al., 2018). Through these concerns, researchers continue to question what Grit truly means.

Additionally, Duckworth has noted the shortcoming of the measurement of Grit and has claimed to want to revisit the scale specifically surrounding the items relating to passion (Jachimowicz et al., 2018). Empirical results suggest that the factor measured with Duckworth et al. tool shows evidence of only one construct, perseverance (Credé et al., 2017; Jachimowicz et al., 2018). Credé et al. suggests that the focus on Grit should shift to perseverance due to the lack of validity for the factor consistency of interest (Credé et al., 2017). The definition assigned to Grit incorporates passion or consistency of effort, but the research supports that it is not being measured with the tool. Jachimowicz et al. argue that Grit's conceptual and methodological issues come from the missing passion in its theory and measurement (Jachimowicz et al., 2018). Jachimowicz et al. suggest that the inconsistencies found with Grit and the reason for questioning come from the lack of foundation given to the consistency of interest facet (Jachimowicz et al., 2018).

Because of the contradictory language used to define Grit, it is safe to say that Grit encompasses a multitude of concepts like resilience, adaptability, perseverance, commitment, passion, consistency, work ethic, and mental toughness. Although there have been multiple versions of definitions relating to what Grit is, there seems to be a lack of consensus in research and popular literature regarding what Grit is.

Benefits of Measuring Non-Cognitive/Personality Traits for Employers

A *trait* is defined as a dimension in which individual differences may be measured by the number of characteristics an individual displays (Gatewood et al., 2016). Personality traits identify and measure individuals according to a set of personality characteristics known as traits (Gatewood et al., 2016). By using

personality measurement tools, employers are given the ability to identify the unique abilities of applicants. So much information can be learned through personality measurement tools, such as how a person copes with uncertainty, interpersonal skills, and in other ways, work behaviors (Gatewood et al., 2016). Researchers have found that using appropriately gathered personality data can provide valid evidence for selection purposes (Gatewood et al., 2016; Jack Sawyer, 1966; Tett et al., 1991). A recent study found that staffing practices in other countries have used personality tests more frequently than those in the United States (Gatewood et al., 2016). In 2015 the American Association of Colleges of Pharmacy recognized that non-cognitive traits, such as Grit, are imperative for consideration when seeking to admit well-rounded students (Stoffel & Cain, 2018). The desire to measure non-cognitive traits is becoming more sought out during the selection process. Again, measuring personality traits provides employers with insight into the type of person the applicant is, something that could be missed during other screening processes. Research has demonstrated that utilizing personality data in combination with cognitive ability assessments, biodata, situational judgment tests, and employment interviews can yield accurate predictions of job performance in comparison to other selection methods (Gatewood et al., 2016; Sackett & Roth, 1991). In a qualitative review of trait perspective in leadership, researchers found that using personality measures in selection could improve employee engagement and job satisfaction (Judge et al., 2002). Through the use of personality assessments, there is potential for better placement by organizations by identifying candidates who are likely to be a good fit.

Legal Issues

As an employer, selection is a process that needs careful attention to ensure legal guidelines are being followed while also meeting the company's needs. Selection programs should be able to maximize the probability of making accurate decisions about applicants (Gatewood et al., 2016). Through more accurate hiring decisions, companies would select individuals who could help their organization thrive. Along with making accurate decisions, selection programs should be able to ensure that these decisions are made with minimal chance of a judgment of discrimination made against the organization (Gatewood et al., 2016). The U.S. Equal Employment Opportunity Commission (EEOC) enforces federal laws which make it illegal to discriminate against job applicants or employees based on the protected groups of race, color, religion, sex (pregnancy and related condition, gender identity, and sexual orientation), national origin, age (40+), disability or genetic information (EEOC, n.d.). Discrimination in the selection process can present itself in many different ways. Adverse impact, a form of discrimination, refers to the difference between demographically different individuals regarding the outcome of a selection procedure or process (Gatewood et al., 2016; SHRM, 2022). Adverse impact can occur when a hiring decision has a disproportionately negative effect on a protected group, although the effect may be unintentional (SHRM, 2022). Disparate treatment, another form of discrimination, is intentional discrimination based on a protected group (SHRM, 2022). Unlike personality tests, which have not been found to produce outcomes with adverse impact on demographic groups, cognitive ability tests have been found to be a highly biased selection tool (Bosco et al., 2015; Gatewood et al., 2016; Ployhart & Holtz, 2008). Although a great predictor of performance, cognitive ability tests have been questioned as a measurement tool due to racial bias (Bosco et al., 2015; Morgan et al., 2005; Ployhart & Holtz, 2008).

Regarding measurement tool usage during the selection process, it is essential to remember the validity of the tools used for predictability and legal purposes. The validity of the measurement tool helps ensure that the measured variables are predictable. Deciding what tools to use should reflect the criteria and needs of the job while being fair and non-discriminatory. By using personality measurement tools relevant to the job needs, employers could identify their desired personality traits in future employees with minimal chance of a judgment of discrimination.

What is Next with Grit and Why?

This study will contribute research to what is already known about Grit and extend current research by empirically evaluating the scale's psychometric properties. Grit has been defined using multiple terms and concepts relating to psychology. This has caused much confusion in understanding what Grit is and is not. Previous studies have attempted to add new factors with new definitions to identify what Grit is and what it measures. The original Grit scale by Angela Duckworth comprises two factors and has been questioned because of inconsistent results in its correlation to high performers (Credé et al., 2017; Disabato et al., 2019; Lee, 2022).

There are several reasons to continue research on Grit. The two factors currently used in the original Grit tool are weakly but significantly correlated with various outcomes, including professional success, academic achievements, and physical and mental health (Datu et al., 2016; Duckworth et al., 2007b; Eskreis-Winkler et al., 2014). There is a natural curiosity to identify the traits of "successful" or "high achieving" individuals, as these traits may be desirable in various endeavors, such as employment, education, and personal relationships. Although much research has been conducted, the concept is relatively new and still a lot unknown. The

potential relationship between Grit and positive outcomes, such as job performance, career success, and well-being, has sparked continued interest in the trait (Credé, 2018; Credé et al., 2017; A. Duckworth et al., 2007b; Eskreis-Winkler et al., 2014; Southwick et al., 2019). As a result, the study of Grit and its potential applications in the workplace continues to attract attention and curiosity.

Grit has been suggested as a predictor of success, and there are many ways organizations can utilize tools that capture this predictor to their advantage (Duckworth et al., 2007b). Organizations could include measures of Grit in hiring and selection, professional development, and organizational leadership. Before we use the original conceptualization of and measurement of Grit (heretofore referred to as the Grit-O Scale) to make huge decisions in the workplace, it is important to solidify what factors make up the Grit Scale and if the Grit Scale assesses a single construct, to begin with. The research questions for this study are:

R1: Is there an underlying factor structure to the Grit-Original Scale, and if so, what are the factors, and how many factors are there?

R2: What psychological factors or traits is the Grit-Original Scale assessing?

R3: Do gender or racial differences exist in the Grit-Original Scale?

Hypothesis: The Grit-Original Scale will show a significant and positive relationship with at least two theorized factors of consistency of interest and perseverance of effort.

CHAPTER 2: METHODOLOGY

Participants

Participation in this survey was restricted to people 18+ years old and fluent in English. Participants came from various sources such as social media (Facebook,

LinkedIn, Reddit, Instagram, WhatsApp), general email, and a university-wide email sent by Middle Tennessee State University. 1,093 participants consented to complete the survey voluntarily. After data cleaning, 364 participants were retained. 61.3% of participants identified as women, 25.5% as men, 3.6% as other, 0.3% as intersex, and 9.4% preferred not to answer. Participants' age ranges were the following 50.4% for those who are 18-30 years old, 19.4% for those who are 31-42 years old, 12.6% for those who are 43-55 years old, 7.9% for those who are 57-67 years old, and 1.1% for those who are 68-74 years old.

Procedure

The participants recruited came from various sources. Social media was one of the platforms used (Facebook, Twitter, LinkedIn, Reddit, and GroupMe). A university-wide email was sent to everyone with access to a Middle Tennessee State University email address account. The link posted to social media platforms was not limited to these groups of people, and it was encouraged to share the link. Participants who completed the survey were eligible to enter in a raffle. The raffle incentive included winning one (1) of five (5) \$20 Amazon gift cards. The general recruitment message is as follows:

“Hello,
I am a graduate student in the Industrial Organizational Psychology master’s program at Middle Tennessee State University. As part of my journey toward completing my degree, I am currently working on an exciting thesis project that requires data collection.
Here’s how you can help: I am conducting a survey to evaluate a tool used to measure a particular personality trait. I would be incredibly grateful if you could spare 25-35 minutes of your time to participate in this survey. Your input and contribution to my research are invaluable. At the end of the survey, you will have the option to enter a raffle to win one (1) of five (5) \$20 Amazon gift cards. Thank you in advance for considering being a part of my study, your support is greatly appreciated!”

Upon opening the survey, participants were asked if they were 18+ years old and were asked to consent to participate in the survey. If participants selected “No,” they were thanked for their time and closed out of the survey. If participants selected yes, they moved forward with the study. The survey presented the measurement tools in the following order: Grit-O Scale, perseverance, toughness, and adaptability items, the passion scales (Passion to Work and Passion Scale), Goal Commitment, Occupational Work Ethics, HEXACO, and finally, the vocab IQ test. Participants then moved on to the demographic portions, where they were asked about their gender identity, age, and ethnicity. Throughout the survey, 8 quality assurance questions prompted participants to select a particular answer to ensure that the participant was attentive during the study. At the end of the survey, participants were presented with the following debriefing statement:

“The purpose of this study is to evaluate a current tool used to measure the non-cognitive trait that is often called Grit. Through your participation, researchers will be able to evaluate the reliability and validity of the most common measurement of Grit. Thank you for participating!

If you have any questions or concerns, please contact Ayat Tamimi (at&d@mtmail.mtsu.edu)

Alternatively, you may contact the advisor of this research, Dr. Mark Frame (mark.frame@mtsu.edu).

Please click Continue one more time to submit your responses for this study.”

Continuing, participants were sent to a separate Qualtrics survey, where they were asked if they would like to enter the raffle. If no, participants were thanked for their time and closed out of the survey. If yes, they were asked to enter their email address, and then to enter their email a second time for validation purposes. The email addresses collected were not tied to the survey collected in the first survey. Lastly, participants were asked where they heard about the study and thanked for participating.

Measures

Grit-O Scale. In developing the original Grit scale, Duckworth et al. intended to develop a stand-alone measurement tool for Grit (Duckworth et al., 2007). The goal of the Grit scale was to capture the attitudes and behavioral characteristics found in individuals who were high achievers (Duckworth et al., 2007). The twelve items written were purposefully curated to be face valid to adolescents and adults (Duckworth et al., 2007).

In the Grit-O, participants are asked to be honest and rate their agreement or disagreement with each statement using a 5-point Likert scale. The scale is purported to assess two factors: consistency of interest (CI) and perseverance of effort (PE). To measure sustained effort when faced with adversity, researchers developed the Perseverance of Effort factor, which was made up of items such as “I finish whatever I begin” and “I am diligent” (Duckworth et al., 2007). Duckworth found acceptable levels of internal consistency for Perseverance of Effort ($\alpha = .78$; Duckworth et al., 2007).

In addition to the effort one maintains, researchers considered the length at which one would be afraid of change; this factor is Consistency of Interest. The CI factor includes items such as “I often set a goal but later choose to pursue a different one” and “My interests change from year to year.”. Duckworth found acceptable levels of internal consistency for Consistency of Interests ($\alpha = .84$; Duckworth et al., 2007).

Through the development of the Grit-O scale, Duckworth found acceptable levels of internal consistency for the Grit-O Scale overall ($\alpha = .85$). It is worth noting, however, that confirmatory factor analysis found that the two-factor structure had a

CFI= .83 and RMSEA= .11, indicating that the current factors in the original Grit scale were insufficient fit to the model of Grit (Duckworth et al., 2007).

In addition to the Grit-O Scale, Duckworth et al. worked to develop a short version known as Grit-S. When developing the Grit-S, researchers collected data from four samples: West Point class of 2008 and 2010 retention, 2005 National Spelling Bee Final Round, and Ivy League Undergrad GPA (Duckworth & Quinn, 2009). After computing item-level correlation for all samples, the correlations were ranked within each factor, and the items below the median were eliminated (Duckworth & Quinn, 2009). Two items from both factors were removed, resulting in the shorter new Grit scale, Grit-S. The development of Grit-S, an 8-item measurement tool, captured the consistency of interest subscale ($\alpha = .73$ to $.79$) and perseverance of effort ($\alpha = .60$ to $.78$; Duckworth & Quinn, 2009). Confirmatory factor analysis was run on the two-factor model of Grit within each sample. With the West Point Class of 2008 sample, the CFI= .95 and RMSEA= .061, and the West Point Class of 2010 CFI=.95, RMSEA= .068 (Duckworth & Quinn, 2009). These were indicators of a good fit. With the 2005 National Spelling Bee finalists, the fit was worse, CFI= .86 RMSEA= .101 (Duckworth & Quinn, 2009). Lastly, the Ivy League undergraduates had a sufficient CFI=.93 yet a high RMSEA= .097 (Duckworth & Quinn, 2009).

International Personality Item Pool (IPIP)

IPIP is a resource that provides free access to thousands of personality items that have already been validated. Based on the literature the following traits were selected for this study (Goldberg, 1999).

Personality Items. Participants completed personality measures from the IPIP inventory on perseverance, toughness, and adaptability.

Perseverance. In this portion of the survey, participants were presented with 44 items in total. Participants were asked to indicate the extent to which they agreed or disagreed with the statements with a 5-point Likert scale. Some of those statements included “I finish what I start” and “I have a slow pace in life.” Cronbach’s alpha for these items ranges between .75 to .88.

Toughness. In this portion of the survey, participants were presented with 22 items in total. Participants were asked to indicate the extent to which they agreed or disagreed with the statement with a 5-point Likert scale. Some of those statements included “I can stand criticism” and “I know how to cope.” Cronbach’s alpha for these items ranges between .77 and .84.

Adaptability. In this portion of the survey, participants were presented with 8 items in total. Participants were asked to indicate the extent to which they agreed or disagreed with the statement. Items in this portion of the survey included statements such as “I am good at taking advice” and “I don’t tolerate critics.” Cronbach’s alpha for these items is .67.

Passion. In this portion of the survey, participants were presented with 22 total items from two scales measuring different passion forms. The first fourteen-item scale measures passion at work by assessing two types of passion: obsessive and harmonious passion. Obsessive passion (OP) refers to a strong attachment to an activity that can create pressure; this could lead to negative affect and persistence (Vallerand et al., 2003). Harmonious passion (HP) refers to a person having more autonomy over participating in fulfilling activities they enjoy (Vallerand et al., 2003).

Unlike obsessive passion, harmonious passion is more positive because there is autonomy and flexibility around whether a person engages in their desired activity (Vallerand et al., 2003). The second eight-item scale is a general passion scale. The Passion Scale (PS) defines passion as enthusiasm toward personal significant preference (Sigmundsson et al., 2020; Vallerand, 2012; Vallerand et al., 2003)

Passion at work. Participants were presented with a 14-item scale that asked the extent to which they agreed or disagreed. In this scale, two types of passion were measured: obsessive and harmonious passion. Cronbach's alpha for obsessive passion is .91, and harmonious passion is .84. Items were modified to be made about work and include statements such as "My work allows me to live a variety of experiences." and "I have a tough time controlling my need to do my work."

Passion Scale. Participants completed the 8-item passion scale that asked the extent to which they agreed with the statements. The internal consistency of this scale is .86 and included statements like "I used a lot of time on the project I like." and "I would like to use a lot of time to become good in that aspect of my life." Within an adult sample, construct validity was measured with a Pearson correlation of .39 (Sigmundsson et al., 2020).

Goal Commitment. In this portion of the survey, participants completed 8 items that measure the extent to which they agree or disagree with statements about their commitment to goals. Goal commitment is defined as one's determination to work/try for a goal (Hollenbeck et al., 1989; Hollenbeck & Klein, 1987; Klein et al., 2001). These items include statements such as "It's hard to take my goals seriously" and "There is not much to be gained by trying to achieve my goals." Cronbach's alpha for this tool has proven to be sufficient at .71 (Hollenbeck et al., 1989).

Occupational Work Ethics. This portion of the survey presented participants with the short form of the occupational work ethic scale. This 7-point Likert scale looks at interpersonal skills, initiative, and dependability. This scale presents work ethic descriptors and asks participants to consider “As a worker, I can describe myself as...” and then presents descriptors such as courteous, likable, resourceful, etc. Participants are asked to select how they accurately relate to the descriptor by selecting never, almost never, seldom, sometimes, usually, almost always, or always (Park & Hill, 2018)

HEXACO. The HEXACO is a 60-item measurement tool that captures the following factors: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience. The factor honesty-humility measures sincerity, fairness, and avoidance of greed. The factor emotionality measures things such as anxiety and fearfulness. The factor extraversion measures social self-esteem and boldness in a social setting. The factor agreeableness measures flexibility, patience, and traits related to cooperation. The factor conscientiousness measures diligence, perfectionism, and responsibility. Furthermore, the factor of openness to experience measures creativity, inquisitiveness, and unconventional ideas. Internal consistency reliability ranges from .88 to .91. Scale intercorrelations are also all below .30, which is favorable. (Ashton & Lee, 2009)

Cognitive Ability. Participants completed a vocab IQ test at the end of the survey. The test was obtained from an open-source website for researchers (<https://openpsychometrics.org/tests/VIQT/>; Kirkegaard, 2021). The test has 45 questions. Each question presents five words, and participants are asked to select two

that share the same meaning. Participants have the option to select “I don’t know.” Scoring was done by summing the number of questions answered correctly.

CHAPTER 3: RESULTS

After cleaning the data, 364 participants' responses were retained for analysis. From the initial sample size of 1,096 participants, 3 participants were removed because they did not provide consent, 570 did not pass the quality assurance test of receiving a 6/8 correct answers, and 159 participants were removed from the sample due to no response on variable measures or due to a request not to use data. All analyses were conducted using Excel, SPSS, and AMOS. Means, standard deviations, and internal consistency were calculated for each measure. See Appendix A. The mean age of participants in this study was 33.4 years (SD=13.6). About 61.3% ($n=223$) of participants identified as a woman, 25.5% ($n=93$) identified as men, 5.2% ($n=19$) identified as other, and 8.0% ($n=29$) of participants preferred not to answer. Although the sample included participants from diverse ethnic backgrounds, most of the sample comprised 67.0% ($n=244$) Caucasian/White participants.

Confirmatory Factor Analysis

This approach was done to examine the underlying factor structure of the Grit-O scale. Confirmatory factor analyses were conducted on the Grit-O scale using SPSS AMOS 28 graphics. Two models were analyzed, a one-factor model and a two-factor model of Grit-O. The results indicated that the one-factor model had an unacceptable fit with model chi-square and degrees of freedom= 473.44(54), CFI=.68, RMSEA=

.15, GFI=.77, and AGFI=.66 (See Figure 1 and Table 1). The two-factor model chi-square and degrees of freedom= 244.29(53), CFI=.86, RMSEA= .10, GFI=.90, and AGFI=.85 (See Figure 2 and Table 1). Although the two-factor model performed slightly better, the fit was still poor, and modifications were made to produce a better fit model. Modification indices pathways were added to improve the CFI and RMSEA of the two-factor model. Results suggest that there be modifications made so pathways were created by error terms with large modification index values. Pathways were only added between error terms within the same latent variable group even though there were high modification index values between error terms in different groups (i.e., high modification index value between an item from the CI variable and PE variable). Pathways were added to improve fit between error terms 3 and 8, 3 and 11, 1 and 10, and 6 and 9. Results suggested that the modifications provided a better fit model. After the modifications, the two-factor model chi-square and degrees of freedom = 170.19(49), CFI=.91, RMSEA=.08, GFI=.93, AGFI=.89 (See Figure 3 and Table 1). These results suggest that with the modifications CFI (greater than .9) and RMSEA (between .05 and .08) values indicate an adequate fit (Diefendorff et al., 2005; Fabrigar et al., 1999). With the modified two-factor model, the squared multiple correlations presented a low value on item 4 ($r^2=.12$). See Table 2. Lower loadings indicate that items in a measure are weaker and less related to the latent variables. Lastly, the correlation before modifications was $r= .49$, and after modifications increased to $r= .55$ (See Table 3).

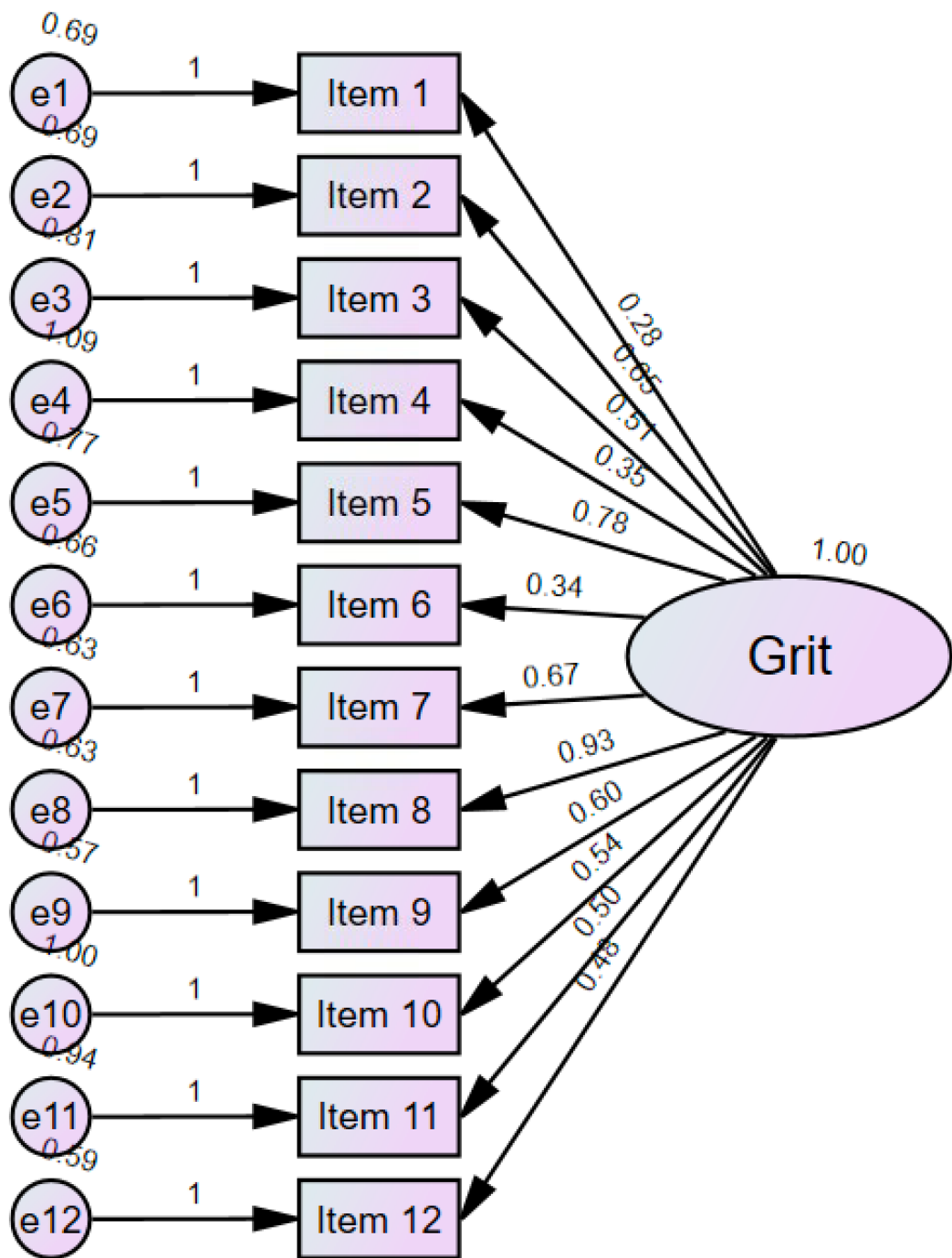


Figure 1. One-Factor CFA Model of Grit-O

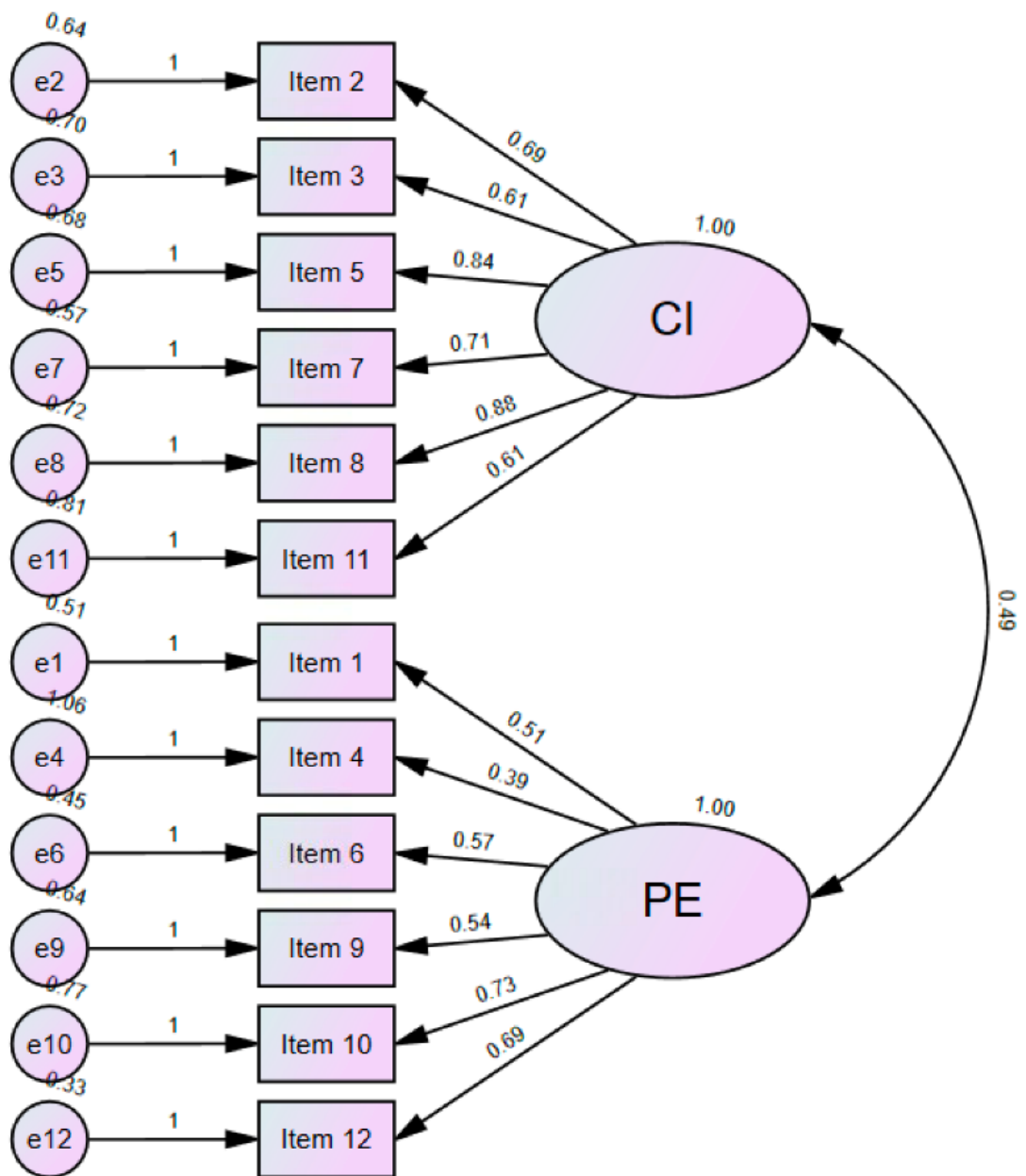


Figure 2. Two-Factor CFA Model of Grit-O

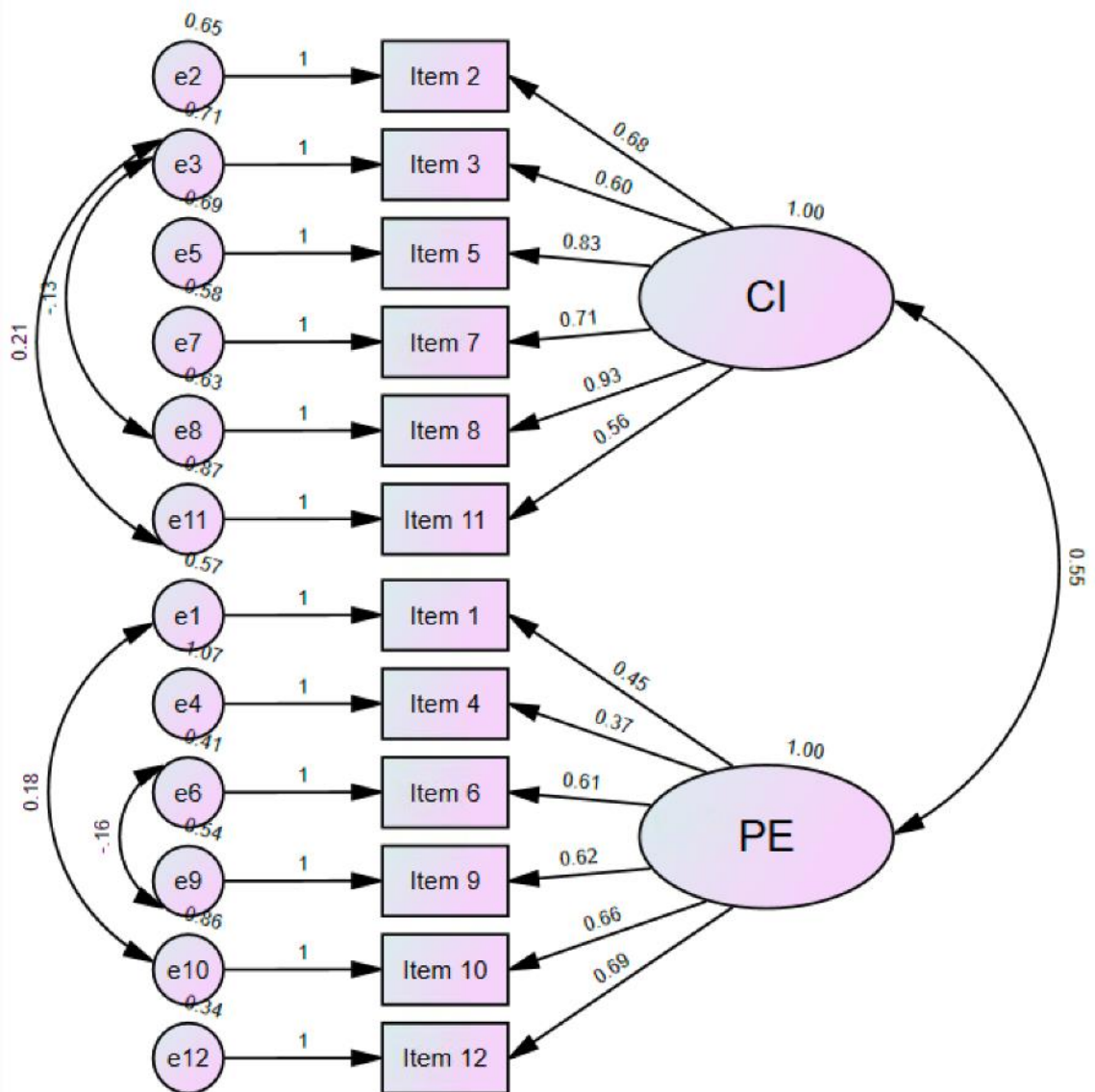


Figure 3. Modified Two-Factor Grit-O Model

Table 1.

Confirmatory Factor Analysis Results

Model	<i>N</i>	$X^2(df)$	CFI	RMSEA	GFI	AGFI
One-Factor Model*	364	473.4 (54)	.68	.15	.77	.66
Two-Factor Model*	364	244.3 (53)	.86	.10	.90	.85
Modified Two-Factor Model*	364	170.19 (49)	.91	.08	.93	.89

*All original items included

Table 2.

Squared Multiple Correlation (r^2) for CFA Modified Two-Factor Grit-O Model

Item	Consistency of Interest (CI)	Perseverance of Effort (PE)
2. New ideas and projects sometimes distract me from previous ones.	.42	
3. My interests change from year to year.	.34	
5. I have been obsessed with a certain idea or project for a short time but later lost interest.	.50	
7. I often set a goal but later choose to pursue a different one.	.46	
8. I have difficulty maintaining my focus on projects that take more than a few months to complete.	.58	
11. I become interested in new pursuits every few months	.26	
1. I have overcome setbacks to conquer an important challenge		.26
4. Setbacks don't discourage me		.12
6. I am a hard worker		.48
9. I finish whatever I begin		.42
10 I have achieved a goal that took years of work		.34
12. I am diligent		.58

Table 3.

CFA Correlation Matrix for Modified Two-Factor Grit-O Model

Variable	<i>M</i>	<i>SD</i>	1	2
1. Consistency of Interest	3.0	.80	—	
2. Perseverance of Effort	3.9	.67	.55	—

Note: $n = 364$

Correlation Analysis

Correlation analysis was conducted to identify potential relationships between Grit-O and other variable measures. A Pearson correlation coefficient was computed to assess the linear relationship between Grit-O and each variable of interest. There was a significant and positive correlation between the Grit-O and 12 of 14 measures of interest which include: perseverance $r(364) = .50$, $p < .001$, toughness $r(364) = .46$, $p < .001$, adaptability $r(364) = .38$, $p < .001$, passion at work $r(364) = .14$, $p = .008$, passion scale $r(364) = .30$, $p < .001$, goal commitment $r(364) = .58$, $p < .001$, occupational work ethic $r(364) = .43$, $p < .001$, conscientiousness $r(364) = .50$, $p < .001$, agreeableness $r(364) = .11$, $p = .044$, extraversion $r(364) = .35$, $p < .001$, and honesty/humility $r(364) = .23$, $p < .001$. There was a significant and negative correlation between Grit-O and emotionality $r(364) = -.17$, $p = .001$. It is also worth noting that there while there was no significant correlation between total Grit score and the cognitive ability test, Vocab IQ measure, ($r = .07$), there was a small yet significant correlation with Consistency of Interest ($r = .13$) and Perseverance of Effort ($r = .17$). The results also showed that between both factors Perseverance of Effort was correlated to more measures than Consistency of Interest. Consistency of Interest was significantly and positively correlated with toughness ($r = .33$), goal commitment ($r = .37$), and conscientiousness ($r = .34$). Perseverance of Effort was significantly and positively correlated to perseverance ($r = .66$), toughness ($r = .45$), adaptability ($r = .39$), the passion scale ($r = .44$), goal commitment ($r = .62$), occupational work ethic ($r = .56$), conscientiousness ($r = .52$), and extraversion ($r = .41$). See Table 4.

Table 4.
Correlation Analysis Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Grit-O	—															
2. Consistency of Interest	.87**	—														
3. Perseverance of Effort	.80**	.39**	—													
4. Perseverance	.50**	.23**	.66**	—												
5. Toughness	.46**	.33**	.45**	.38**	—											
6. Adaptability	.38**	.26**	.39**	.27**	.56**	—										
7. Passion at Work	.14**	.03	.23**	.35**	.09	.02	—									
8. Passion Scale	.30**	.10	.44**	.50**	.26**	.21**	.35**	—								
9. Goal Commitment	.58**	.37**	.62**	.62**	.37**	.32**	.21**	.61**	—							
10. Occupational Work Ethic	.43*	.19**	.56**	.61**	.45**	.41**	.20**	.46**	.53**	—						
11. Openness	-.02	-.12*	.11**	.08	.08	.23**	.11*	.27**	.07	.14**	—					
12. Conscientiousness	.50**	.34**	.52**	.59**	.30**	.28**	.06	.46**	.58**	.50**	.15**	—				
13. Agreeableness	.11*	.08	.10	-.03	.35**	.52**	.01	.03	.07	.25**	.06	.03	—			
14. Extraversion	.35**	.19**	.41**	.33**	.52**	.25**	.19**	.25**	.34**	.47**	.05	.15**	.18**	—		
15. Emotionality	.17**	.16**	-.11*	-.05	-.59*	-.27**	.03	.00	-.02	-.05	-.00	-.00	-.23**	-.19**	—	
16. Honesty/Humility	.23**	.18**	.22**	.20**	.30**	.42**	.02	.19**	.25**	.31**	.20**	.29**	.31**	.13*	-.11	—
17. Vocab IQ	.07	-.01	.13*	.17**	.13*	.07	-.02	.16**	.18**	.13*	.27**	.23**	-.06	-.02	-.08	.11*

**Correlation is significant at the .01 level

* Correlation is significant at the .05 level

Gender and Race Analysis

A *Welch's T-Test* and one-way ANOVA were conducted to approach the third research question regarding gender or racial differences with the Grit-O scale.

Welch's T-Test

Welch's t-test was used to analyze the gender difference between men and women and their Grit scores. This test was conducted because the sample size for men and women is unequal. The Welch *t-test* for independent samples ($\alpha = .05$) indicated there was not a significant difference in average Grit scores between men ($M=3.5$, $SD=.56$, $n=93$) and women ($M=3.5$, $SD=.62$, $n=223$), $t(314)=-.143$, $p=.12$, Cohen's $d=.60$.

ANOVA

A one-way ANOVA was conducted to evaluate the relationship between participants' racial identity and Grit scores. See Appendix B for demographic descriptive statistics. The one-way ANOVA ($\alpha = .05$) indicated no significant difference in average Grit score between groups based on racial identity $F(6, 356)=1.52$, $p=.17$.

CHAPTER 4: DISCUSSION

This study generally affirmed the underlying factor structure of the Grit-O Scale. This study also identified the other factors and traits are associated with the Grit-O Scale. Our examination of gender and racial differences with the Grit-O measurement tool were produced no significant differences.

The first research question, concerned with the Grit-O factor structure, led to this study's confirmatory factor analysis portion. The analysis results supported that

the Grit-O structure better fit as a two-factor structure than a one-factor structure. These results explain that the construct of Grit within this sample supported that the observed variable comprises two factors. The unmodified two-factor model in this study had a better fit than Duckworth's but yet was not a great fit model. Duckworth et al. found through their CFA a two-factor model of Grit-O with CFI=.83 and RMSEA=.11, which was similar to the CFA values for the unmodified two-factor model in this study, CFI=.86 and RMSEA= .10. This study had better results through the CFA and although a better fit than the one-factor model, the two-factor model did need to be modified to become an even better fit. Looking at modification indices and making modifications helps to identify improvements to the model and leads to a more accurate representation of relationships between measurement items and factors. By modifying the error terms, the fit of the modified two-factor model became adequate. Within the factor consistency of interest, error term 3 for item 3 ("My interests change from year to year.") had high modification indices with error term 8 for item 8 ("I have difficulty maintaining my focus on projects that take more than a few months to complete.") and error term 11 for item 11 ("I become interested in new pursuits every few months."). The high modification index value can be attributed to similar wording of these items, and this can alert future researchers to modify the language in the item potentially. Within the factor perseverance of effort error term 6 for item 6 ("I am a hard worker.") had high modification indices with error term 9 for item 9 ("I finish whatever I begin."). This indicated a unique relationship between these two items beyond the relationship to the latent variable that needs to be accounted for. Within the same factor, error term 1 for item 1 ("I have overcome setbacks to conquer an important challenge.") had high modification indices with error term 10 for item 10 ("I have achieved a goal that took years of work."). Given

the high modification indices, there is justification for saying that there is potential content overlapping which could lead to shared variance. For these error terms, pathways were added to increase the model fit. The modified two-factor model CFI=.91 and RMSEA=.08, resulting in an adequate model. The modified two-factor model also presented that item 4 (“Setbacks don’t discourage me.”) could be removed or reworded in the future due to its low correlation to its given factor, perseverance of effort ($r^2 = .12$).

Research question two identified traits assessed by other measures that were and were not correlated with the Grit-O measure. Through the analysis, there was evidence that supported that the Grit-O measure was significantly and positively correlated with many variables. Although there were significant and positive relationships between many variables, the most significant were those with a higher correlation value. Those with a Pearson r correlation above .3 supported a stronger relationship with Grit-O. Perseverance, toughness, adaptability, passion scale, goal commitment, occupational work ethic, conscientiousness, and extraversion were significantly and highly correlated to Grit-O. The results found that Grit-O was the most correlated with goal commitment ($r = .56$). The goal commitment measure focused on capturing one’s determination to work/try for a goal. The goal commitment measure used in this study has sufficient reliability, and the correlation between Grit-O and goal commitment supports the convergent validity of the Grit-O measure.

Based on the many relationships between Grit and the other variables, it continues to add to the conversation about what Grit is and what it measures. With Grit-O being correlated to so many other personality traits, it could indicate a broad characteristic shaping people’s behavior. Although the significant relationships

provide more information for future research, it does add to the fact that we are unclear about what exactly Grit is measuring. The focus of what Grit is conceptually needs to be narrowed so that future measures could adopt the appropriate changes to better capture and define Grit. It is also important to note that when looking at the correlations between individual factors, consistency of interest, and perseverance of effort, perseverance of effort was significantly and positively correlated with many factors. These results could indicate that the consistency of interest measure items is not represented as well in the Grit-O structure.

The correlation analysis also showed no significant relationship between Grit-O and the vocabulary IQ measure. Not only was the relationship not significant, but the correlation value was extremely low ($r=.07$). The results strongly suggest that one's level of "Grit" is unrelated to one's cognitive ability. Alternatively, this information shows that someone could be "gritty" and have low, mediocre, or even high cognitive ability.

The third research question, concerned with gender or racial differences with the Grit-O measure, led the Welch's T-Test and ANOVA analysis. The analysis supports that the Grit-O measure captures a score that does not significantly differ between gender or racial groups. It is worth noting that there was an unequal sample size between the gender groups. There were more women in the sample than men, which could skew the results. There were also unequal sample sizes with racial groups because most participants identified as Caucasian/White. Although there were no significant differences in Grit scores between gender or racial groups, it is important to acknowledge the potential impact of the unequal sample sizes when interpreting these results. Due to the absence of significant differences in Grit scores among gender or racial group, there is support that the use of the Grit-O measure may not be

influenced by discrimination. However, to use this measure in confidence, future research should address whether gender or racial differences exist in a more balanced and racially diverse sample size. By conducting this test in future research, more information on the potential impact of gender and racial factors on Grit scores could be found.

Implications for Researchers

This study found that the Grit-O model was a better fit as a two-factor model while considering modifications. The study results related to factor structure could be utilized in future research to explore other modifications to identify a model with an even better fit. This exploration could include carefully considering the phrasing and wording of items with high modification indices. The results in this study, related to variable relationships, support the convergent validity of Grit-O to personality traits such as perseverance, toughness, adaptability, goal commitment, and extraversion. These findings can be used to support that the Grit-O Scale is able to measure related constructs, which can validate its use in other contexts. Researchers can also use the findings to clarify the concept of “Grit potentially.” The study revealed the many factors correlated with Grit which suggests it may capture broad individual characteristics. Future researchers should narrow the focus on Grit to define the trait better. Due to the nonsignificant relationship between cognitive ability and Grit in this study, future research should also focus on the relationship between performance and Grit to determine the predictive qualities of the measure.

Implications for Practitioners

This study produced results that I-O and HR practitioners could utilize in areas such as selection/recruitment, workplace interventions, and potentially diversity and inclusion. With selection and recruitment, the addition of the using the Grit-O measure could assess for desired characteristics traits associated to a job's needs. The Grit-O measure positively correlated to occupational work ethic, conscientiousness, and goal commitment, indicating a potential relevance for predicting job success and how dedicated one is to achieving a long-term goal. Practitioners could utilize these findings to gather more information about applicants' characteristics. Within an organization, hiring managers could implement a Grit-O measure in the selection process and compare it to the hired employees' job performance over time. The predictive validity of the Grit-O measure could support the criterion validity of the Grit-O measure. Although predictive validity studies provide good information for organizations, there is the restriction of range when it comes to knowing the unknown (i.e., we do not know about those who are not hired). It is important to note that practitioners should not use the Grit-O measure for decision-making (i.e., hiring based on Grit score) due to potential ethical concerns. It is not recommended that decisions be made with the Grit-O tool because it measures non-cognitive personality traits and not one's ability to perform. Through criterion and predictive validity studies, we could learn more about the trait and potentially improve the measure for decision-making in the future. This study supports that the two-factor model is a better fit once modified, but the fit is only adequate. Practitioners should be cautious about what sample or context they use the measure because it could potentially influence the validity of the results. With workplace interventions, practitioners could better understand an individual's level of Grit. Once there is a more solid understanding of the trait, there is potential room to create targeted interventions to foster the trait

among employees in an organization. By fostering a trait like Grit in an organization, a company could potentially increase productivity and job satisfaction. Relating to diversity and inclusion, the findings suggest that the measure may not be influenced by discrimination however, practitioners should be mindful of these results due to the sample size used in this study. Future practitioners should look for a more balanced and racially diverse sample to get a better understanding of potential influence of gender or racial factors with Grit scores.

Limitations

Some initial imitations of this study come from the survey structure and procedures. There was feedback from some individuals on the length of the survey. Some participants mentioned it took longer than the expected and others finished within the estimated time. There was a large sample removed from the data analysis due to incomplete submissions. There is also the possibility that upon posting the survey online people did not care to give attention to the survey and simply clicked through to get to the incentive portion. This study used self-report data so there is the chance that individuals could have answered the prompts in a traditionally favorable direction rather than answering honestly. The self-reported data could contain bias (Shaddish et al., 2002). Another limitation relates to the study design and the number of items in the survey. With a decrease in items the survey could take less time which could increase participation in the future. When it came to correlation analysis there were some measures that had a different rating system (occupational work ethic measure, 7-point Likert scale) than the Grit-O measure (5-point Likert scale). The difference in scale range could cause potential error and the interpretation between these measures should be approaches cautiously. Another limitation comes from the

lack of diverse samples. When it came to the gender analysis there were more women than there were men. And with the racial analysis majority of participants were Caucasian/White. Because there was a majority in both groups this could skew the analysis and the interpretations of the analysis should be applied with caution.

Conclusions

With the continued interest in organizations identifying top performers there is a need for analyzing tools out there designed to predict desirable personality traits. Grit has been trendy in literature and there are many questions about what it measures and the factors in the structure. Ultimately the present research found that the originally theorized two-factor structure was a better model fit once modification indices were considered. The one-factor model showed that Grit as a singular variable is not a great model fit. This supports that the model is a better fit when two-factors are accounted for. Although the two-factor model is a better fit modifications were made to make it even better and there is potential to remove items with low factor loading values in the future. Knowing that the two-factor structure is a better fit allows researchers to look at the items within the two-factors and interpret what they are capturing. Although the modified two-factor presented to be a better fit it was only an adequate fit. The results also support the utility of the Grit-O because there are various positive and significant correlations with personality that provides evidence of convergent validity. The implications of the analysis on gender or racial differences were limited by unequal sample size and future research should strive for a more balanced and diverse sample to gain a comprehensive understanding of potential influence on Grit scores. To conclude this study has provided valuable insight into the Grit-O Scale's factor structure, convergent validity, and lack of significant gender or

racial differences. The results of this study provide a foundation for continued research in Grit, guiding researchers, practitioners, and HR professionals in utilizing and interpreting the Grit-O measure. However, it is essential to address the scale's conceptual clarity and to continue to explore underlying dimensions in various samples to understand the nature of Grit better.

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APPENDICES

Appendix A: Internal Consistency, Means, SD on Variable Measures

Variable	Internal Consistency α	Mean	SD
1. Grit-O	.82	3.5	.61
2. Consistency of Interest	.82	3.0	.80
3. Perseverance of Effort	.75	3.9	.67
4. Perseverance	.77	3.5	.32
5. Toughness	.89	3.6	.68
6. Adaptability	.74	3.9	.66
7. Passion at Work	.89	3.0	.80
8. Passion Scale	.88	4.2	.71
9. Goal Commitment	.71	3.7	.56
10. Occupational Work Ethic	.88	5.9	.76
11. Openness	.77	3.7	.66
12. Conscientiousness	.79	3.8	.62
13. Agreeableness	.71	3.2	.58
14. Extraversion	.79	3.2	.69
15. Emotionality	.78	3.3	.69
16. Honesty/Humility	.76	3.7	.66
17. Vocab IQ	.95	.63	.25

Appendix B: Demographic Variables and Grit-O Average Score

Variable	Frequency (<i>n</i>)	M	SD
Gender			
Women	223	3.50	.56
Men	93	3.50	.62
Race			
Caucasian/White	244	3.62	.62
Hispanic/Latino	13	3.88	.41
Asian	17	3.37	.61
African American/Black	16	3.54	.50
Middle Eastern	18	3.44	.65
Other	28	3.37	.65

APPENDIX C: IRB APPROVAL LETTER



Office of Research Compliance
2269 Middle Tennessee Blvd.
Sam H. Ingram Bldg (ING) Room 010A
Box 124
Murfreesboro, TN 37132
www.mtsu.edu/irb

Date: June 9, 2023
PI: Ayat Tamimi
Department: Middle Tennessee State University, Psychology
Re: Initial - IRB-FY2023-131
Grit Measurement Evaluation

The Middle Tennessee State University Institutional Review Board has reviewed and approved by Expedited Review the above referenced research study. The approval is effective starting June 9, 2023.

Decision: Approved

Category: 7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. [45 CFR 46.101\(b\)\(2\)](#) and (b)(3). This listing refers only to research that is not exempt.)

Please note:

Any **modifications to the approved study must be submitted for review through Cayuse IRB**. Please note, as well, that according to MTSU Policy, a researcher is defined as anyone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to complete the required training. If you add researchers to an approved project, please add them to the project within Cayuse IRB for approval **before** they begin to work on the project.

Any unanticipated harm to participants or adverse events must be reported to the Office of Compliance, and any subsequent changes to the protocol must be submitted to the IRB for review before implementing this change.

You must submit an end-of-project form to the Office of Compliance upon

completion of your research. Completed research means that you have finished collecting data.

All research materials must be retained by the PI or faculty advisor (if the PI is a student) for at least three (3) years after study completion and then destroyed in a manner that maintains confidentiality and anonymity.

All approval letters and study documents are located within the Study Details in Cayuse IRB.

We wish you a successful research project,

The Middle Tennessee State University Institutional Review Board

APPENDIX D: INFORMED CONSENT

Study Title: We want to know more about you!

Protocol Number: IRB-FY2023-131

Approval Date: June 9, 2023

Principal Investigator: Ayat Tamimi

Institution: Middle Tennessee State University

You are being asked to participate in a research project. The following information is provided to inform you about the research project and your participation in it.

1. Purpose of the study: This study will evaluate the effectiveness and validity of a current personality measurement tool by comparing it with other relevant factors. This study will determine whether underlying factor structure exists. The results of this study will provide researchers with more information about the relationship of various personality traits.

2. Description of procedures to be followed and approximate duration of the study: The procedures begin with an informed consent and then are followed by a variety of scales targeted at identifying non-cognitive traits in individuals followed by demographic questions. This survey should take between 25-35 minutes.

3. Compensation for participation: You will have the opportunity to enter into a raffle drawing. Participants have the opportunity to receive one of five \$20 Amazon gift cards. These gift cards will be delivered to winners electronically.

Here are your rights as a participant:

- Your participation in this research is voluntary.
- You may skip any item that you don't want to answer, and you may stop the research at any time. Note that if you leave an item blank, you will be warned that you missed one, just in case it was an accident. You can still click that you don't want to answer. Some items may be required in order to accurately present the study.
- There are no risks associated with your participation besides possible discomfort with some of the questions.
- There are no real benefits to you from participating besides possibly learning something about the research.
- You will NOT be asked to provide any identifiable personal information.
- All efforts, within reason, will be made to keep the personal information in your research record private, but total privacy cannot be promised. Your information may be shared with people at MTSU (such as the MTSU Institutional Review

Board) or other agencies (such as the Federal Government Office for Human Research Protection) if you or someone else is in danger or if we are required to do so by law.

Contact Information: If you should have any questions about this research study or possible injury, please contact:

Principal Investigator: Ayat Tamimi

Contact Information: at8d@mtmail.mtsu.edu

Faculty Advisor: Mark Frame

Contact Information: mark.frame@mts.edu

For additional information about giving consent or your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance at 615-494-8918 or via email at irb_information@mts.edu. (<http://www.mtsu.edu/irb>)

APPENDIX E: Online Survey

INFORMED CONSENT

Study Title: We want to know more about you!

Protocol Number: IRB-FY2023-131

Approval Date: June 9, 2023

Principal Investigator: Ayat Tamimi

Institution: Middle Tennessee State University

You are being asked to participate in a research project. The following information is provided to inform you about the research project and your participation in it.

1. Purpose of the study: This study will evaluate the effectiveness and validity of a current personality measurement tool by comparing it with other relevant factors. This study will determine whether underlying factor structure exists. The results of this study will provide researchers with more information about the relationship of various personality traits.

2. Description of procedures to be followed and approximate duration of the study: The procedures begin with an informed consent and then are followed by a variety of scales targeted at identifying non-cognitive traits in individuals followed by demographic questions. This survey should take between 25-35 minutes.

3. Compensation for participation: You will have the opportunity to enter into a raffle drawing. Participants have the opportunity to receive one of five \$20 Amazon gift cards. These gift cards will be delivered to winners electronically.

Here are your rights as a participant:

- Your participation in this research is voluntary.
- You may skip any item that you don't want to answer, and you may stop the research at any time. Note that if you leave an item blank, you will be warned that you missed one, just in case it was an accident. You can still click that you don't want to answer. Some items may be required in order to accurately present the study.
- There are no risks associated with your participation besides possible discomfort with some of the questions.
- There are no real benefits to you from participating besides possibly learning something about the research.
- You will NOT be asked to provide any identifiable personal information.
- All efforts, within reason, will be made to keep the personal information in your research record private, but total privacy cannot be promised. Your information

may be shared with people at MTSU (such as the MTSU Institutional Review Board) or other agencies (such as the Federal Government Office for Human Research Protection) if you or someone else is in danger or if we are required to do so by law.

Contact Information: If you should have any questions about this research study or possible injury, please contact:

Principal Investigator: Ayat Tamimi

Contact Information: at8d@mtmail.mtsu.edu

Faculty Advisor: Mark Frame

Contact Information: mark.frame@mtsu.edu

For additional information about giving consent or your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance at 615-494-8918 or via email at irb_information@mtsu.edu.
(<http://www.mtsu.edu/irb>)

- Yes, I am 18+ years old, have read the informed consent and agree to participate.
- No, I do not agree to participate.

If not selected participants are skipped to an exit screen and thanked for their time

Grit- O:

Please respond to the following 12 items. Be honest – there are no right or wrong answers!

	Not like me at all (1)	Not much like me (2)	Somewhat like me (3)	Mostly like me (4)	Very much like me (5)
1. I have overcome setbacks to conquer an important challenge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. New ideas and projects sometimes distract me from previous ones.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. My interests change from year to year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Setbacks don't discourage me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I have been obsessed with a certain idea or project for a short time but later lost interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am a hard worker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I often set a goal but later choose to pursue a different one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I have difficulty maintaining my focus on projects that take more than a few months to complete.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I finish whatever I begin.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I have achieved a goal that took years of work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. I become interested in new pursuits every few months.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I am diligent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Perseverance:

Please answer the following questions about yourself by indicating the extent of your agreement using the scale provided.

	Disagree (1)	Somewhat Disagree (2)	Neutral (3)	Somewhat Agree (4)	Agree (5)
1. I finish what I start.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I am quick to quit when the going gets tough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I quickly lose interest in the tasks I start.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I have difficult keeping my attention on a task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I am easily distracted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I quit tasks as soon as I get bored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I put work above pleasure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I am under constant pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I complete tasks successfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I am always busy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 11. I have too many things to do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I have extra time on my hands. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I have a slow pace to my life. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I lack perseverance when it comes to working. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. I feel that work is not an important part of my life. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I work hard. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. I do more than what's expected of me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I am exacting in my work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. I set high standards for myself and others. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I am ready to do battle for a cause. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. I accomplish a lot of work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22. I am always on the go. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I do just enough work to get by. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I put little time and effort into my work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. I don't quit a task before it is finished. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. I have Grit. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

- | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 27. I am a goal-oriented person. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I finish things despite obstacles in the way. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29. I am a hard worker. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. I don't get sidetracked when I work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 31. I don't finish what I start. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 32. I lack passion for my work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 33. I give up easily. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 34. I have perseverance when it comes to working. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 35. I do not tend to stick with what I decide to do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 36. I carry out my plans. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 37. I get things done quickly. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 38. I always know what I am doing. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 39. I waste my time. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 40. I have passion for my work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 41. I find it difficult to get down to work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 42. I mess things up. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

43. I don't put my mind on the task at hand.

44. I postpone decisions.

Toughness:

Using the scale below, select the level of agreement that best describes your answer to the following statements.

	Disagree (1)	Somewhat Disagree (2)	Neutral (3)	Somewhat Agree (4)	Agree (5)
1. I am calm even in tense situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I don't lose my head.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I know how to cope.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I can stand criticism.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I take offense easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I panic easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I am easily hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I am easily offended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I feel crushed by setbacks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I become overwhelmed by events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I am easily frightened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I am easily confused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I am not embarrassed easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. I remain calm under pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I want to be in charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I quickly recognize possibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I automatically take charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I feel that I'm unable to deal with things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I panic easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I am afraid that I will do the wrong thing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I often feel uncomfortable around others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I feel threatened easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Adaptability:

Please respond to the following prompts.

	Disagree (1)	Somewhat Disagree (2)	Neutral (3)	Somewhat Agree (4)	Agree (5)
1. I am good at taking advice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I adapt easily to new situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I can stand criticism.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am a bad loser.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I want to have the last word.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I can't stand being contradicted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I put down others' proposals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I don't tolerate critics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Passion:

Using the scale below, select the level of agreement that best describes your feelings about the following statements.

	Disagree (1)	Somewhat Disagree (2)	Neutral (3)	Somewhat Agree (4)	Agree (5)
1. My work allows me to live a variety of experiences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The new things that I discover in my work allow me to appreciate it even more.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. My work allows me to live memorable experiences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My work reflects the qualities I like about myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. My work is in harmony with the other activities in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. For me, my work is a passion, that I still manage to control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I am completely taken with my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I cannot live without my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The urge is so strong. I can't help myself from doing my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I have difficulty imagining my life without my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. I am emotionally dependent on my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I have a tough time controlling my need to do my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I have almost an obsessive feeling for my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. My mood depends on me being able to do my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I have an aspect of my life that I am really passionate about.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I would like to use a lot of time to become good in that aspect of my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I think I could be an expert in one aspect of my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I have passion enough to become very good in the aspect of my life I like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I work hard enough to fulfill my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I have a burning passion for some aspect of my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I use lot of time on the projects I like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. My passion is important for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Goal Commitment:

Please read the following statements and honestly answer to what extent you agree.

	Strongly Disagree (1)	Moderately Disagree (2)	Neutral (3)	Moderately Agree (4)	Strongly Agree (5)
1. It's hard to take my goals seriously.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. It's unrealistic for me to expect to reach my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. It is quite likely that my goals may need to be revised, depending on how things go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Quite frankly, I don't care if I achieve my goals or not.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I am strongly committed to pursuing my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. It wouldn't take much to make me abandon my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I think my goals are good goals to shoot for.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I am willing to put forth a great deal of effort beyond what I'd normally do to achieve my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. There is not much to be gained by trying to achieve my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Occupational Work Ethic:

For each work ethic descriptor listed below, select the level that most accurately describes your standards for that item. There are no right or wrong answers. There is no time limit, but you should work as rapidly as possible. Please respond to every item on the list.

As a worker, I can describe myself as:

	Never (1)	Almost never (2)	Seldom (3)	Someti mes (4)	Usually (5)	Almost always (6)	Always (7)
1. Dependable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Ambitious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Following directions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Courteous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Initiating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Perceptive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Likeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Cheerful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Following regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Resourceful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HEXACO:

Please read each statement and decide how much you agree or disagree with that statement.

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1. I would be quite bored by a visit to an art gallery.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I plan ahead and organize things, to avoid scrambling at the last minute.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I rarely hold a grudge, even against people who have badly wronged me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I feel reasonably satisfied with myself overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I would feel afraid if I had to travel in bad weather conditions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I'm interested in learning about the history and politics of other countries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I often push myself very hard when trying to achieve a goal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. People sometimes tell me that I am too critical of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 10. I rarely express my opinions in group meetings. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. I sometimes can't help worrying about little things. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. If I knew that I could never get caught, I would be willing to steal a million dollars. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I would enjoy creating a work of art, such as a novel, a song, or a painting. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. When working on something, I don't pay much attention to small details. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. People sometimes tell me that I'm too stubborn. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I prefer jobs that involve active social interaction to those that involve working alone. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. When I suffer from a painful experience, I need someone to make me feel comfortable. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. Having a lot of money is not especially important to me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. I think that paying attention to radical ideas is a waste of time. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I make decisions based on the feeling of the moment rather than on careful thought. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 21. People think of me as someone who has a quick temper. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22. On most days, I feel cheerful and optimistic. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I feel like crying when I see other people crying. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I think that I am entitled to more respect than the average person is. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. If I had the opportunity, I would like to attend a classical music concert. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. When working, I sometimes have difficulties due to being disorganized. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. My attitude toward people who have treated me badly is "forgive and forget." | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I feel that I am an unpopular person. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29. When it comes to physical danger, I am very fearful. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. If I want something from someone, I will laugh at that person's worst jokes. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 31. I've never really enjoyed looking through an encyclopedia. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 32. I do only the minimum amount of work needed to get by. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 33. I tend to be lenient in judging other people. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 34. In social situations, I'm usually the one who makes the first move. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 35. I worry a lot less than most people do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 36. I would never accept a bribe, even if it were very large. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 37. People have often told me that I have a good imagination. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 38. I always try to be accurate in my work, even at the expense of time. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 39. I am usually quite flexible in my opinions when people disagree with me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 40. The first thing that I always do in a new place is to make friends. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 41. I can handle difficult situations without needing emotional support from anyone else. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 42. I would get a lot of pleasure from owning expensive luxury goods. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 43. I like people who have unconventional views. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 44. I make a lot of mistakes because I don't think before I act. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 45. Most people tend to get angry more quickly than I do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

- | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 46. Most people are more upbeat and dynamic than I generally am. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 47. I feel strong emotions when someone close to me is going away for a long time. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 48. I want people to know that I am an important person of high status. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 49. I don't think of myself as the artistic or creative type. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 50. People often call me a perfectionist. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 51. Even when people make a lot of mistakes, I rarely say anything negative. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 52. I sometimes feel that I am a worthless person. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 53. Even in an emergency I wouldn't feel like panicking. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 54. I wouldn't pretend to like someone just to get that person to do favors for me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 55. I find it boring to discuss philosophy. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 56. I prefer to do whatever comes to mind, rather than stick to a plan. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 57. When people tell me that I'm wrong, my first reaction is to argue with them. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

58. When I'm in a group of people, I'm often the one who speaks on behalf of the group.

59. I remain unemotional even in situations where most people get very sentimental.

60. I'd be tempted to use counterfeit money, if I were sure I could get away with it.

Vocab IQ Test:

This portion of the survey includes a Vocab IQ measure.

In each question you are given five words and asked to select two that have the same meaning. You get penalized for wrong answers, so if you do not know, select "don't know".

1. Select the two words that can mean the same thing.

- | | |
|----------------------------|------------------------------------|
| <input type="radio"/> Tiny | <input type="radio"/> Faded |
| <input type="radio"/> New | <input type="radio"/> Large |
| <input type="radio"/> Big | <input type="radio"/> I don't know |

2. Select the two words that can mean the same thing.

- | | |
|------------------------------|------------------------------------|
| <input type="radio"/> Shovel | <input type="radio"/> Spade |
| <input type="radio"/> Needle | <input type="radio"/> Oak |
| <input type="radio"/> Club | <input type="radio"/> I don't know |

3. Select the two words that can mean the same thing.

- | | |
|--------------------------------|------------------------------------|
| <input type="radio"/> Walk | <input type="radio"/> Rob |
| <input type="radio"/> Juggle | <input type="radio"/> Steal |
| <input type="radio"/> Discover | <input type="radio"/> I don't know |

4. Select the two words that can mean the same thing.

- | | |
|------------------------------|------------------------------------|
| <input type="radio"/> Finish | <input type="radio"/> Embellish |
| <input type="radio"/> Cap | <input type="radio"/> Squeak |
| <input type="radio"/> Talk | <input type="radio"/> I don't know |

5. Select the two words that can mean the same thing.

- | | |
|------------------------------|------------------------------------|
| <input type="radio"/> Recall | <input type="radio"/> Flex |
| <input type="radio"/> Efface | <input type="radio"/> Remember |
| <input type="radio"/> Divest | <input type="radio"/> I don't know |

6. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Implore | <input type="radio"/> Fancy |
| <input type="radio"/> Recant | <input type="radio"/> Beg |
| <input type="radio"/> Answer | <input type="radio"/> I don't know |

7. Select the two words that can mean the same thing.

- | | |
|----------------------------|------------------------------------|
| <input type="radio"/> Deal | <input type="radio"/> Claim |
| <input type="radio"/> Plea | <input type="radio"/> Recoup |
| <input type="radio"/> Sale | <input type="radio"/> I don't know |

8. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Mindful | <input type="radio"/> Negligent |
| <input type="radio"/> Neurotic | <input type="radio"/> Lax |
| <input type="radio"/> Delectable | <input type="radio"/> I don't know |

9. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Quash | <input type="radio"/> Evade |
| <input type="radio"/> Enumerate | <input type="radio"/> Assist |
| <input type="radio"/> Defeat | <input type="radio"/> I don't know |

10. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Entrapment | <input type="radio"/> Partner |
| <input type="radio"/> Fool | <input type="radio"/> Companion |
| <input type="radio"/> Mirror | <input type="radio"/> I don't know |

11. Select the two words that can mean the same thing.

- | | |
|-----------------------------|------------------------------------|
| <input type="radio"/> Junk | <input type="radio"/> Squeeze |
| <input type="radio"/> Trash | <input type="radio"/> Punch |
| <input type="radio"/> Crack | <input type="radio"/> I don't know |

12. Select the two words that can mean the same thing.

- | | |
|------------------------------------|------------------------------------|
| <input type="radio"/> Trivial | <input type="radio"/> Crude |
| <input type="radio"/> Presidential | <input type="radio"/> Flow |
| <input type="radio"/> Minor | <input type="radio"/> I don't know |

13. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Prattle | <input type="radio"/> Siren |
| <input type="radio"/> Couch | <input type="radio"/> Chatter |
| <input type="radio"/> Good | <input type="radio"/> I don't know |

14. Select the two words that can mean the same thing.

- | | |
|-----------------------------|------------------------------------|
| <input type="radio"/> Above | <input type="radio"/> Slow |
| <input type="radio"/> Over | <input type="radio"/> Pierce |
| <input type="radio"/> What | <input type="radio"/> I don't know |

15. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Assail | <input type="radio"/> Designate |
| <input type="radio"/> Arcane | <input type="radio"/> Capitulate |
| <input type="radio"/> Specify | <input type="radio"/> I don't know |

16. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Succeed | <input type="radio"/> Drop |
| <input type="radio"/> Squeal | <input type="radio"/> Spit |
| <input type="radio"/> Fall | <input type="radio"/> I don't know |

17. Select the two words that can mean the same thing.

- | | |
|-----------------------------|------------------------------------|
| <input type="radio"/> Fly | <input type="radio"/> Soar |
| <input type="radio"/> Drink | <input type="radio"/> Peer |
| <input type="radio"/> Hop | <input type="radio"/> I don't know |

18. Select the two words that can mean the same thing.

- | | |
|--------------------------------|------------------------------------|
| <input type="radio"/> Disburse | <input type="radio"/> Perplex |
| <input type="radio"/> Muster | <input type="radio"/> Convene |
| <input type="radio"/> Feign | <input type="radio"/> I don't know |

19. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Cistern | <input type="radio"/> Crimp |
| <input type="radio"/> Bastion | <input type="radio"/> Leeway |
| <input type="radio"/> Pleat | <input type="radio"/> I don't know |

20. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Solder | <input type="radio"/> Beguile |
| <input type="radio"/> Distant | <input type="radio"/> Reveal |
| <input type="radio"/> Seduce | <input type="radio"/> I don't know |

21. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Dowager | <input type="radio"/> Matron |
| <input type="radio"/> Spank | <input type="radio"/> Fiend |
| <input type="radio"/> Sire | <input type="radio"/> I don't know |

22. Select the two words that can mean the same thing.

- | | |
|--------------------------------|------------------------------------|
| <input type="radio"/> Wordly | <input type="radio"/> Solo |
| <input type="radio"/> Inverted | <input type="radio"/> Drunk |
| <input type="radio"/> Alone | <input type="radio"/> I don't know |

23. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Protracted | <input type="radio"/> Standard |
| <input type="radio"/> Normal | <input type="radio"/> Florid |
| <input type="radio"/> Unbalanced | <input type="radio"/> I don't know |

24. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Admissible | <input type="radio"/> Barbaric |
| <input type="radio"/> Lackluster | <input type="radio"/> Drab |
| <input type="radio"/> Spiffy | <input type="radio"/> I don't know |

25. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Related | <input type="radio"/> Intrinsic |
| <input type="radio"/> Alien | <input type="radio"/> Steadfast |
| <input type="radio"/> Pertinent | <input type="radio"/> I don't know |

26. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Facile | <input type="radio"/> Annoying |
| <input type="radio"/> Clicker | <input type="radio"/> Obnoxious |
| <input type="radio"/> Counter | <input type="radio"/> I don't know |

27. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Capricious | <input type="radio"/> Incipient |
| <input type="radio"/> Galling | <input type="radio"/> Nascent |
| <input type="radio"/> Chromatic | <input type="radio"/> I don't know |

28. Select the two words that can mean the same thing.

- | | |
|--------------------------------|------------------------------------|
| <input type="radio"/> Noted | <input type="radio"/> Subsidiary |
| <input type="radio"/> Culinary | <input type="radio"/> Illustrious |
| <input type="radio"/> Begrudge | <input type="radio"/> I don't know |

29. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Breach | <input type="radio"/> Harmony |
| <input type="radio"/> Vehement | <input type="radio"/> Rupture |
| <input type="radio"/> Acquiesce | <input type="radio"/> I don't know |

30. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Influence | <input type="radio"/> Power |
| <input type="radio"/> Cauterize | <input type="radio"/> Bizarre |
| <input type="radio"/> Regular | <input type="radio"/> I don't know |

31. Select the two words that can mean the same thing.

- | | |
|-------------------------------|------------------------------------|
| <input type="radio"/> Silence | <input type="radio"/> Rage |
| <input type="radio"/> Anger | <input type="radio"/> Victory |
| <input type="radio"/> Love | <input type="radio"/> I don't know |

32. Select the two words that can mean the same thing.

- | | |
|--------------------------------|------------------------------------|
| <input type="radio"/> Sector | <input type="radio"/> Mean |
| <input type="radio"/> Light | <input type="radio"/> Harsh |
| <input type="radio"/> Predator | <input type="radio"/> I don't know |

33. Select the two words that can mean the same thing.

- | | |
|--------------------------------|------------------------------------|
| <input type="radio"/> House | <input type="radio"/> Carnival |
| <input type="radio"/> Yest | <input type="radio"/> Economy |
| <input type="radio"/> Domicile | <input type="radio"/> I don't know |

34. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Depression | <input type="radio"/> Despondency |
| <input type="radio"/> Forswear | <input type="radio"/> Hysteria |
| <input type="radio"/> Integrity | <input type="radio"/> I don't know |

35. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Memorandum | <input type="radio"/> Catalogue |
| <input type="radio"/> Bourgeois | <input type="radio"/> Trigger |
| <input type="radio"/> Note | <input type="radio"/> I don't know |

36. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Fulminant | <input type="radio"/> Doohickey |
| <input type="radio"/> Ligature | <input type="radio"/> Epistle |
| <input type="radio"/> Letter | <input type="radio"/> I don't know |

37. Select the two words that can mean the same thing.

- | | |
|----------------------------------|------------------------------------|
| <input type="radio"/> Titanic | <input type="radio"/> Equestrian |
| <input type="radio"/> Miserly | <input type="radio"/> Promiscuous |
| <input type="radio"/> Gargantuan | <input type="radio"/> I don't know |

38. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Stanchion | <input type="radio"/> Strumpet |
| <input type="radio"/> Pole | <input type="radio"/> Pale |
| <input type="radio"/> Forstall | <input type="radio"/> I don't know |

39. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Yearn | <input type="radio"/> Reject |
| <input type="radio"/> Hanker | <input type="radio"/> Despair |
| <input type="radio"/> Indolence | <input type="radio"/> I don't know |

40. Select the two words that can mean the same thing.

- | | |
|---------------------------------|------------------------------------|
| <input type="radio"/> Introduce | <input type="radio"/> Terminate |
| <input type="radio"/> Shatter | <input type="radio"/> Bifurcate |
| <input type="radio"/> Fork | <input type="radio"/> I don't know |

41. Select the two words that can mean the same thing.

- Omen
- Harbinger
- Demand
- Opulence
- Mystic
- I don't know

42. Select the two words that can mean the same thing.

- Hightail
- Abscond
- Surmise
- Report
- Perturb
- I don't know

43. Select the two words that can mean the same thing.

- Fugacious
- Fractious
- Extemporaneous
- Vapid
- Querulous
- I don't know

44. Select the two words that can mean the same thing.

- Cardinal
- Full
- Inkling
- Pilot
- Trial
- I don't know

45. Select the two words that can mean the same thing.

- Fixed
- Stagnant
- Shiftly
- Rotund
- Permanent
- I don't know

Gender:

Which of the following best describes you?

- Man Woman
- Intersex Prefer not to say
- Other

Age:

Please provide your Age (in years): _____

Ethnicity:

Which of the following best describes your ethnicity (please check all that apply)

- Caucasian/White Hispanic/Latino
- Asian African American/Black
- Native Hawaiian or Pacific Islander Middle Eastern
- American Indian/Alaskan Native Other: _

You are nearly finished. Please answer the questions on this page. Please answer honestly.

Did you take this study seriously, or did you click through the responses?

- Just clicked through
- Took the study seriously

Is there any reason why we should **NOT** use your data?

- My data should **NOT** be included in the analyses
- My data should be included in your analyses

If “My data should not be included in the analyses” is selected the following appears
Why should we **NOT** include your data in our analyses?

- | | |
|--|---|
| <input type="radio"/> I wasn't really paying attention | <input type="radio"/> I just clicked randomly |
| <input type="radio"/> I didn't understand the task/questions | <input type="radio"/> I didn't really know what I was doing |
| <input type="radio"/> I just skimmed through the questions | <input type="radio"/> Other |

Finally, what do you think the purpose of this study is? _____

Debriefing:

The purpose of this study is to evaluate a current tool used to measure the non-cognitive trait that is often called Grit. Through your participation researchers will be able to evaluate the reliability and validity of the most common measurement of Grit. Thank you for participating!

If you have any questions or concerns, please contact Ayat Tamimi (at8d@mtmail.mtsu.edu)

Alternatively, you may contact the advisor of this research, Dr. Mark Frame (mark.frame@mtsu.edu).

Please click continue one more time to submit your responses for this study.