



RESILIENCE AND GRIT AMONG ATHLETES AND NON-ATHLETES

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Abstract

Physical performance has shown high perseverance due to the need to perform better and improve oneself every day. Resilience and Grit are two of the factors that hold individuals up and help them bounce back from situations of stress and failures.

The current study aims to find whether there exists a difference in Resilience and Grit among Athletes and Non-Athletes and also find the relationship between Resilience and Grit. This study includes 167 Participants out of which 83 are athletes and 83 are Non-athletes between the age group of 16-27 from all over India. The sampling method used was Non-Probability Sampling and data was collected using Grit scale and BU Resilience Scale. The result indicated that there is a significant difference in Resilience and Grit among Athletes and Non-Athletes and there is a low positive significant Correlation between Resilience and Grit among Non-Athletes.

Keywords: Resilience, Grit, Athletes, Non-athletes

CHAPTER 1

INTRODUCTION

Resilience

The word “resilience” originated from the Latin word *resilire* meaning to jump back (Kumpfer 1999). Each individual shows a different set of capabilities in dealing with an unpleasant event.

Some people are able to come out of it unscathed to lead fully functional lives whereas others lose their sense of being and are rendered incapable due to the circumstances, thus leaving long-lasting effects in life. This observation prompted Norm Garmezy to study the phenomenon of resilience. In the early 70s, Garmezy was interested in understanding the normal development of at-risk children who had severe psychopathology in their family. Thus, he initiated “Project Competence,” which was devoted to studies of competence, adversities, and resilience.

During the 1970s and 1980s empirical studies reported how some children were able to achieve competency despite their adverse circumstances (Anthony 1974; Werner & Smith 1982). In the succeeding decades, different definitions of resilience emerged such as, “the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances” (Masten et al. 1990, p.426), “a personality characteristic that moderates the negative effects of stress and promotes adaptation” (Wagnild & Young 1993, p.165).

Resilience was not only hailed as the ability to readily recover from illness, depression, and adversity (Abrams 2001) but also viewed as “a class of phenomena characterized by patterns of positive adaptation in the context of significant adversity or risk,” (Masten & Reed 2002, p.74) which enables individuals to recuperate quickly and effectively from adverse events. Resilience also includes constructive and growth- enhancing consequences of adversity or challenges (Strumpher 2003). Rutter (2006) defined resilience as “reduced vulnerability to environmental risk experiences, the overcoming of stress or adversity or a relatively good outcome despite risk experiences” (p.1).

Fletcher & Sarkar (2013) concluded that all definitions of resilience highlight the individual's ability to overcome adversity and successful positive adaptation. Resilience studies encompass all the age groups of life span hence, review of resilience and human development theories are indispensable.

Resilience Programs

All definitions of resilience lead to the point that resilience refers to standing up against challenges, which have emerged as a result of a trauma and/or adversity and that resilience is affected by a combination of factors which may be external or internal. However, the mere presence of these factors (or resources) is not enough to predict resilience. An individual should have the awareness of his/her resources and be able to use them timely and effectively. Some of these factors are liable to change with time (such as support network, friends, etc.) while others may remain unchanged (such as one's disposition, religiosity, etc.). Any kind of imbalance or change in one's resources may lead to lower levels of resilience and hence negative outcomes. While several studies have highlighted the efficacy of resilience intervention programs (Saltzman et al. 2013; Shakespeare-Finch et al. 2014; etc.), there are many resilience intervention programs available around the world that address the needs of all age groups.

The Penn Resiliency Program (PRP) in the Positive Psychology Center, University of Pennsylvania was initiated by Gillham and Reivich. The main focus of this program is the late elementary and middle school students and the primary aim is to teach these children problem solving and coping skills to help them overcome the challenges in their growing years. Several studies using PRP have reported positive outcomes in terms of preventing depression, anxiety, and adjustment disorder diagnoses as well as disruptive behavior (Cutuli 2004; Gillham et al. 2006).

The efficacy of PRP was also proven in a study on Chinese medical students, wherein PRP was linked to improved levels of resilience, and a positive emotions regulation style (Peng et al. 2014). To enhance resilience, coping strategies, and protective factors and reduce symptomatology during academic stress, Steinhardt and Dolbier (2008) tested the efficacy of a 4-week resilience intervention program among college students. The experimental group not only scored higher in overall resilience but also displayed more effective coping strategies and better performance on protective factors (self-esteem, self-

leadership, and positive affect) and lower scores on symptomatology, including depressive symptoms, negative affect, and perceived stress.

Resilience Theory

Resiliency Theory is an approach for understanding child and adolescent development and informing intervention design by use of a strengths-based approach (Fergus & Zimmerman, 2005; Zimmerman & Brenner, 2010). Resiliency theory provides a conceptual framework for investigating and comprehending how some children grow up to be healthy adults despite participants exposed to hazards (Garmezy, 1991; Masten, et al., 2007; Rutter, 1987; Werner & Smith, 1982). Positive environmental, societal, and individual factors that interfere with or interrupt developmental trajectories from risk to problem behaviors, mental discomfort, and poor health outcomes are really the focus of resilience.

These Promotive factors are positive contextual, social, and individual variables that act in opposition to risk factors and help youth in overcoming the negative effects of risk exposure (Fergus & Zimmerman, 2005). Fergus and Zimmerman (2005) labeled advertising factors into two types: assets and resources. Assets are positive internal attributes such as self-efficacy and self-esteem. Outside factors such as parental support, adult mentors, and youth clubs that provide opportunities for youth to learn and training skills are regarded as resources.

Assets and resources give youth the individual and contextual attributes people need healthy development. Several models in resiliency theory describe how promotional factors can counteract, protect against, or inoculate youth from the negative effects of risks (Masten et al., 2007; Luthar, 2006). These models guide data analytic strategies and can inform intervention design by defining strategies to enhance promoters.

The compensatory and protective models of resiliency are the two that have received the most attention in the research literature (Fergus & Zimmerman, 2005; Garmezy et al., 1984; Masten, et al., 2007).

Promotive factors, in the compensatory model, act to counteract risk exposure. As a result, compensatory factors have the opposite effect on a developmental outcome as risks (e.g., healthy eating, violence). This is a direct and unrelated effect of risks. As a result, compensatory factors contribute

additively to outcome prediction and are simply entered into a regression analysis after risks are accounted for in the equation. Parental support, (Zimmerman, et al., 1998). In this study, parental support predicted less violent conduct in their adolescent offspring, and this impact was independent of the hazards and skewed in the other way.

According to the protective factor model, promotional assets or resources alter the link between a risk and another promotional factor and results. There are two different types of protection. According to the risk protection paradigm, promotional factors work to mitigate or diminish the links between risks and unfavorable consequences. Whereas Protective-protective models aims to boost the effectiveness of either promotional factor in forecasting an outcome.

Rutter (1987) also proposed the challenge model of resiliency. This approach functions as an immunisation, with adolescents overcoming successive exposures that make them sensitive to bad outcomes. It is critical that the initial risk exposure be demanding enough to enable youngsters to develop coping mechanisms to overcome its consequences, but not so exhausting as to overwhelm any attempt to deal.

Resiliency theory provides a valuable framework for exploring how promotional variables might work to encourage positive youth development. It is not a teenage characteristic that can be assessed using a self-report questionnaire (Fergus & Zimmerman, 2005). Resiliency models, on the other hand, propose links and processes, as well as analytic tools for evaluating them. Although many researchers study resiliency by examining single risks and promoters, a growing area of research focuses on the cumulative effects of multiple promoters across ecological domains (e.g., individual, family, community) to more accurately reflect the complex nature of influences on adolescent development (Ostaszewski & Zimmerman, 2006; Stoddard et al., 2012).

Indian Studies on Resilience

Indian academics have also investigated resilience in teenagers and other population groups. Annalakshmi has examined resilience in a variety of circumstances, including the influence of probabilistic orientation on resilience (Annalakshmi 2007a, b). with extraversion–introversion, psychoticism, and neuroticism (Annalakshmi 2007a), personality traits and resilience (Annalakshmi

2008), its relation with certain cognitive variables (Annalakshmi 2009a, b), resilience among high and low field independents (Annalakshmi 2010), resilience in context of behavior Adolescents' approach and inhibition (Annalakshmi 2011).

Lata (2009) investigated resilience in teenagers living with political violence in Kashmir, the significance of religious meaning systems, and their political aspirations.

Among other things, predictors of resilience were also identified in this sample which were attending private school, having a strong religious meaning system, being less impacted by socioeconomic impact of the political violence, and being directly exposed to political violence. In another study on predictors of resilience, Annalakshmi and Jose (2011) reported truth, equanimity, joy, synthesis, and discernment as strong predictors of resilience, emerging from among a set of factors of spirituality. In high border areas, adolescents with higher resilience levels had lesser mental health problems and better psychological well-being, emotional ties, and general positive affect (Sood et al. 2013).

Role of genetic factors as well as personality traits (some of which are the result of social learning) was highlighted by Shastri (2013) in her review of resilience. Lower levels of resilience among adolescents belonging to single parent families were evident by their low sense of mastery, low sense of relatedness, lower levels of resourcefulness with average to high emotional reactivity (Manhas et al. 2013). The role of resilience on the marital satisfaction of the Indian couples in the context of infertility was reported by Ganth et al. (2013).

Grit

"Grit is described as persistence and a strong desire to achieve long-term goals. Working hard toward problems, retaining effort and interest over years despite failure, difficulty, and growth plateaus. The hardworking individual approaches success as if it were a marathon; his or her edge is stamina. Disappointment or boredom may signal to others that it is time to shift direction and reduce losses, but the tenacious individual maintains the course." (Duckworth et al., 2007)

A personality characteristic known as grit is another non-cognitive component that has attracted extensive attention and has been frequently hailed as a major predictor of success and performance (Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Quinn, 2009). Grit is characterised as

"perseverance and desire for long-term goals" (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087), as well as other things. “. . . not only must you be resilient in the face of defeat, but you must also have profound commitments to which you will remain devoted for many years" (Duckworth as quoted in Perkins-Gough, 2013, p. 16). Duckworth et al. contend that grit can assist to explain why some people outperform their ability test results, and that grit was a key factor to the achievement of highly accomplished persons such as Albert Einstein. Duckworth (2013a) has recently suggested that grit is as excellent as, if not better than, cognitive ability as a predictor of success; a bold claim given meta-analytic findings that cognitive ability correlates about .50 with performance in academic and work settings (Sackett et al., 2012; Schmidt & Hunter, 1998).

Grit is typically operationalized as a higher-order construct with two lower order facets: “perseverance of effort” and “consistency of interest.” These two factors (hereafter referred to as endurance and consistency) refers to the inclination to work hard even in the face of setbacks and the tendency to not frequently change ambitions and interests. Persistence and consistency are thought to contribute to success: persistence because the process of achieving mastery in a field frequently involves initial failures that the individual must persevere through, and consistency because many hours of deliberate practise are normally required to achieve mastery (Ericsson, Krampe, & Tesch-Römer, 1993). Individuals who either withdraw their efforts in the face of hurdles or who frequently alter their interests are unlikely to ever engage in enough focused practice to reach high levels of performance. The contrast between the two aspects is represented in the subscales of the two principal self-report surveys used to evaluate grit: the Grit Scale (Duckworth et al., 2007) and the Short Grit Scale (Duckworth & Quinn, 2009). Although some researchers examine perseverance and consistency as two separate constructs, most research on grit only reports findings at the level of the overall grit score.

In one research (Larkin et al 2015), around 400 youth soccer players (ages 12-15) took Duckworth's Grit Scale test. Larkin and colleagues wanted to know if the performance of these young athletes on the Grit Scale was linked to sport-specific engagement and perceptual-cognitive skills. To determine sport-specific engagement, athletes were asked to complete a modified version of the

Participation History Questionnaire (PHQ). On the perceptual-cognitive front of things, players underwent a series of film-based tests to assess decision making, situational probability and pattern recognition.

Players who scored higher on the grit scale appear to have collected more indirect hours in soccer-related activities over the course of their 8-year involvement in soccer, compared to less gritty individuals. Indirect involvement in sport-related activities consistently provides for around half of overall sport-specific engagement (Larkin et al 2015). Grittier players scored higher on these tests as well.

Goal-seeking is widespread in sports and exercise environments, and it necessitates a significant amount of time spent on goal-seeking. Individuals pursuing their ambitions are likely to meet challenges that may reduce their chances of success. Having enough assistance and resources can increase the possibility that these challenges will be addressed. Grit is one resource that has been linked to accomplishment outcomes and is extremely important for goal attainment (Duckworth, Peterson, Matthews, & Kelly, 2007). Identifying elements that contribute to grit might have significant practical ramifications in situations such as exercise and sport, where goal-setting is common.

Grit is a psychological construct with two dimensions: (1) long-term drive to invest effort (i.e., persistence) and (2) continual interest (i.e., passion) in one's long-term goals (Duckworth et al., 2007). Grit, in particular, permits the ability to continue to exert effort on key tasks while foregoing current benefits in exchange for future pay-offs. Furthermore, athletes with high grit stay devoted to and engaged in their goals for lengthy periods of time (Duckworth et al., 2007). As such, grit has been shown to be a key variable associated with adaptive achievement outcomes in demanding environments or in contexts where retention is problematic (Credé, Tynan, & Harms, 2016; Duckworth and colleagues (2007); Duckworth, Kirby, Tsukayama, Berstein, & Ericsson (2011)). Thus, while grit is not necessary for success in all situations, it may be more relevant in contexts where perseverance and passion aid in the achievement, retention, and maintenance of effortful activities. Because of the amount of hours necessary to learn sport-specific abilities or the continuous time and effort required to maintain or enhance health/fitness, grit is likely to be adaptable in contexts such as sport and exercise. For example, preliminary data suggests a link between grit and sport engagement (e.g., passion, devotion), perceptual-cognitive skills, and time spent participating in sport-related activities (Larkin, O'Connor, & Williams,

2016; Martin, Byrd, Watts, & Dent, 2015). Grit is also essential to sustaining moderate-to-vigorous physical exercise, which is more effortful and deliberate engagement than lower intensity physical activity (Reed, Pritschet, & Cutton, 2012). With the advantages of grit established, it is now necessary to understand the variables that produce grit. According to the broaden-and-build hypothesis (Fredrickson, 1998, 2001; Fredrickson & Branigan, 2005), positive emotions may aid in the development of grit.

Among Athletes, low grit athletes' mastery-involving feedback emphasizes on the importance of hard work and effort facilitated improved performance, whereas ego- involving feedback, which focused on natural ability, led to lower scores. Feedback about hard work communicates to athletes that they are in control of the determinants of a successful performance. They are being oriented to the idea that their performance was due to their effort, which may serve to balance out the beliefs associated with their lower grit scores. In contrast, because low grit athletes generally do not believe that success results from sustained effort, receiving feedback that their performances were based on natural ability may have been particularly limiting. For these athletes, ego-involving feedback does not provide them with an alternative way to orient themselves to the task, such as putting forth more effort. When athletes' already limited beliefs about the utility of effort are reinforced by similarly oriented feedback from a social agent in the sports environment, they may be less focused and/or not try very hard because they believe there is little they can do to make a difference.

High grit athletes, however, appear to be less vulnerable to the negative effects of ego involving feedback, perhaps because of their passion for, and persistence in working toward, longer-term goals that help them stay focused, engaged and effectively performing in a challenging circumstance. This finding was consistent with previous research in sport that has examined protective factors in athletes, including mental toughness and resilience, that suggest athletes with high levels of these psychological traits respond more adaptively to sport demands (Fletcher & Sarkar, 2012; Mahoney et al., 2014). Although by definition grit is concerned with the attainment of long-term goals and staying focused and engaged over time, the reality is that grit's effects also are relevant for the short-term tasks that are the steps leading to future accomplishments. In non-athletes (Duckworth et al., 2007; Robertson-Kraft & Duckworth, 2014) and athletes (Larkin et al., 2016) grit has been related to staying focused on immediate tasks that are

associated with longer-term goals, such as putting forth more effort in practicing skills and techniques that lead to better performances. Thus, even though brief in duration, the soccer task in our study represented a skill that was foundational for long-term success and the high grit athletes may have approached it as an opportunity to practice and improve on their soccer skills.

Duckworth et al. (2007) first stated that individuals who are driven to work persistently despite obstacles, setbacks, and hardship to attain established goals are uniquely positioned to achieve greater success than those who lack such endurance. [3] Duckworth et al. designed, developed, and tested a two-factor grit scale in six investigations, with remarkable results. In addition to validating their grit scale, the authors found evidence that grit had incremental predictive validity for education and age beyond the Big Five personality traits (Study 2); that higher levels of grit were more strongly associated with cumulative grade point average (GPA) in an Ivy league sample when compared to those with lower grit levels ($r = .25$, $p < .01$; Study 3); and that grit predicted retention after their first summer in two colleges (Study 4). Military Academy (Study 4); and that participants in a National Spelling Bee with higher grit scores typically work harder and longer than less gritty peers, ultimately resulting in better performance.[23] This study provides empirical evidence that an individual variation characterized as grit can explain for considerable diversity in performance across a range of circumstances.

Need and significance of the study

The current study was carried out to address previous research gaps. Physical performers like athletes have shown higher perseverance due to the enormous need to perform better and improve oneself every day. Mostly professional athletes show a higher grade of bounce back after physical injuries or emotional breakdowns or exhaustion. Understanding the levels of resilience and grit in athletes and the difference of these variables in individuals who are non-athletes can help us identify the effect of the constant practice, need for improving and higher number of failures from sports events and practice on their psychological factors.

Resilience and grit being factors that hold up individuals and help them bounce back easier at situations of failures, stress, lack of interest and so on helping them from falling into depressive disorders,

burnout syndromes, stress disorders etc. Establishing a relationship between resilience and grit among athletes and non-athletes in the Indian population can help in understanding the needs of improving the levels of resilience and grit in the normal population through strategies which can be developed from findings of future studies.

CHAPTER II

REVIEW OF LITERATURE

Shrivastava, M. U., & Mishra, V. (2016) investigated Grit, Resilience & Agency in Sportspersons and Non-Sportspersons and found that the study presented surprising results where it was observed that non-sports persons exhibited higher levels of grit, resilience and agency as compared to the sportsperson, contrary to expectations. This shocking discovery appears to be the result of inferior equipment, resources, and circumstances accessible to athletes. There are several reports available of various athletes who have earned honors for the country in all major international sports competitions and yet who are reduced to selling vegetables on the street for livelihood. Politicization of the sports procedures and authorities also needs to be checked.

Sarkar, M., & Fletcher, D. (2014) conducted research on Psychological resilience in sport performers: a review of stressors and protective factors and found that The stressors encountered by sport performers can be classified under the following three categories and 14 subcategories: competitive performance (preparation, injuries, pressure, underperforming, expectations, self-presentation and rivalry); the sport organization within which the athletes operate (leadership and personal issues, cultural and team issues, logistical and environmental issues, and performance and personal issues); and personal “non sporting” life events (work-life interface, family issues and the death of a significant other). The five main psychological factors (viz. positive personality, motivation, confidence, focus, perceived social support) are what protect athletes from the potential negative effect of stressors.

Secades, X. G., Molinero, O., Salguero, A., Barquín, R. R., de la Vega, R., & Márquez, S. (2016) Conducted research on Relationship Between Resilience and Coping Strategies in Competitive Sport. Perceptual and Motor Skills and found that During competition, the ratings for emotion-oriented and distraction-oriented coping increased significantly. However, there was no statistically significant difference in resilience scores between assessments conducted during the previous mesocycle or competition. It was seen that During both times, resilience ratings linked favorably with task-oriented

coping and adversely with disengagement- and distraction-oriented coping. ANOVA revealed that athletes with strong individual resilient traits scored higher in task-oriented coping, while adopting disengagement- and distraction-oriented coping to a smaller scale. The result obtained suggests that resilient characteristics may associate in athletes to the use of more potentially adaptive coping strategies.

Martin, C.L., Shanley E., Harnish,C., Amy, M.K., Christopher,S., Vallabhajosula, S., Bullock, G.S., (2021) Conducted research on Overuse Injury, Substance Use, and Resilience in Collegiate Female Athlete and found that The frequency of pain and overuse injuries is significant among female collegiate athletes. The most widely used drugs were alcohol, followed by electronic cigarette usage. There were no significant changes in substance use or overuse injury presentation across resilience groups, but further research is needed.

Dunston, E. R., Messina, E. S., Coelho, A. J., Chriest, S. N., Waldrip, M. P., Vahk, A., & Taylor, K. (2020) investigated Physical activity is associated with grit and resilience in college students: Is intensity the key to success? found that Vigorous physical exercise was connected with resilience and persistence of effort grit domains, but not with constancy of interest grit domains. Furthermore, greater amounts of intense, but not moderate, physical exercise substantially raised grit and resilience ratings.

Gupta, S., & Sudhesh, N. T. (2019) investigated Grit, self-regulation and resilience among college football players there findings of this pilot study can be utilized to build upon future research with larger samples so as to prove beyond reasonable doubt the predictive capacity of Self-Regulation for Resilience. The implication of this study supports prior findings (Bali, 2015; Ohuruogu, Jonathan & Ikechukwu, 2016) [4, 55], in reinforcing the importance of psychological intervention programmes in addition to general training. More specifically, Self-Regulation based intervention which would optimize sporting resilience among players. Owing to the fact that it is a pilot study, the findings of the study have limited external validity..

Joseph, A. I. (2009) Investigated The role of grit in predicting performance in collegiate athletes. He concludes that neither grit nor mental toughness are reliable predictors of athletic performance. Other factors must be considered when identifying elite athletes. A limitation of the study is that it relies on self-

report questionnaires, which are known to be influenced by social desirability. The results of this study cannot be generalized because of its small sample size ($N = 57$) from a single university.

Thomsen, D. K., & Olesen, M. H. (2020) investigated Elite athletes are higher on Grit than a comparison sample of non-athletes. They found that there was a high positive correlation between grit and conscientiousness and the elite athletes reported higher grit than the non-athletes. Contrary to expectations, the non-athletes scored higher on conscientiousness compared to the elite athletes.

Gilchrist, Jenna D.; Fong, Angela J.; Herbison, Jordan D.; Sabiston & Catherine M. (2017) investigated Feelings of pride are associated with grit in student-athletes and recreational runners and found that Authentic pride experiences may be crucial goals for facilitating goal-striving and goal accomplishment in sport and exercise environments. Preliminary research supports the effectiveness of therapies aimed at enhancing comparable resources such as resilience and social and personal skills through promoting positive emotionality. Experiences of genuine pride appear to be an essential avenue for developing Grit. One method for achieving this goal is to target attributions for success by concentrating on an individual's effort (Tracy & Robins, 2004). Consideration of the coaching atmosphere may be another viable avenue for increasing authentic pride by affecting accomplishment objectives in a way that maximizes emotional reactions to success and failure.

Moles, Troy A.; Auerbach, Alex D.; Petrie & Trent A. (2017) investigated Grit Happens: Moderating Effects on Motivational Feedback and Sport Performance found that Athletes who received mastery involving feedback performed significantly better on the task compared with athletes who received ego-involving feedback, outscoring them by 18.12%. The enhanced performance was primarily due to the facilitative effects of the mastery-involving feedback, as opposed to decrements that occurred in the players' scores in the ego-involving condition. Further, this effect was moderated by the athletes' level of grit, such that feedback was most influential for the athletes who reported low levels of grit. Our findings experimentally demonstrate that the receipt of mastery- involving motivational feedback leads to performance improvements and that social agents who define the sport motivational climate for athletes (e.g., coaches, teammates, parents) should focus on effort, hard work, intensity, and attention in their

comments. Additional research is needed to examine the long-term effects of such feedback on athletes' performances.

Cazayoux, M. & Debeliso, M. (2019) investigated Effect of grit on performance in Crossfit in advanced and novice athletes found that Grit levels were shown to be higher among elite Crossfit competitors, indicating that grit may play a role in successful involvement in the fitness activity known as Crossfit. Athletes and coaches might utilize this information in the training environment to maximize an athlete's degree of grit in order to gain a competitive advantage. Athletes and coaches might put the present study's results into action by comprehending the value of practice, discovering why they train in the first place, generating a sense of optimism, and joining an already hardworking group of athletes.

Cazayoux, M. & Debeliso, M. (2019) investigated The Comparison of Mental Health, Resilience and Hardiness in Athletes and Non-Athletes and found that Athletes have higher resilience and hardiness and fewer mental health problems thus have higher mental health. Therefore, as sport has a fundamental role in promoting mental health, it is recommended that families and responsible organizations encourage people –especially teenagers and young people- to engage in sports.

Ram Cazayoux, M azani, F & Hejazi, M. (2020) investigated The Role of Resilience and Hardiness in Mental Health in Sample of Athlete and Non-Athlete and found that there is a significant relationship between Resilience, hardiness and mental health. Resiliency Athletes and non-athletes both have greater toughness and mental wellness. The study also suggests the uniqueness and relevance of mental toughness and resilience in predicting mental health in athletes and non-athletes. As a result, planning is required in order to develop sports culture and its role in society. The value of sport in boosting mental health indicators is proposed. Cevada, T., Moreira, A., Vilete, L., Oertel-Knöchel, V. and Deslandes, A., (2021) investigated Resilience, Psychological Characteristics, and Resting-state Brain Cortical Activity in Athletes and Non-athletes indicates the physically active and athlete groups have a more adaptable profile (compared to the sedentary group), have similar anxiety and depressed symptoms, and exhibit divergent resting-state cerebral cortex activity from the sedentary group, primarily in prefrontal regions. These results imply that regular physical exercise and sports should be promoted to

help with enhancing resilience and resting-state brain cortical function, and consequently, improving mental health.

Galli, Nick; Vealey, Robin S. (2008) investigated “Bouncing Back” From Adversity: Athletes’ Experiences of Resilience and found that the proposed conceptual model of sport resilience suggests that while athletes do experience negative psychological effects as a result of such adversities, they may also experience growth and improvement. Personal growth seems to stem from a variety of sociocultural and personal factors, and occur only after athletes have gone through a process of struggle and coping. Future research should test the utility of the proposed model for explaining resilient outcomes, and further explore the role played by sport stress and adversity in promoting the personal growth of athletes.

Hosseini, A, S., Besharat, A, M., (2010) investigated Relation of resilience whit sport achievement and mental health in a sample of athletes showed resilience was connected with higher levels of sport accomplishment and psychological well-being, but not with lower levels of psychological distress It is possible to conclude that resilience is linked to athletic accomplishment and mental health.

Turner, Martin J. (2016) investigated Proposing a rational resilience credo for use with Athletes found that The ARRC is a great tool for assisting athletes in developing reasonable beliefs that can help them respond resiliently to adversity. The ARRC is not a cure-all for irrational ideas, but if athletes follow it, it can speed up the rate at which they can replace illogical views with reasonable ones. Existing research and REBT theory clearly support the development of rational beliefs for effective emotional and behavioral responses, and the REBT therapeutic ABCDE process has been successfully verified in both non-sporting and sporting settings (e.g., Turner, 2014). Techniques that can aid in this process are useful in sport research because the literature on REBT is still limited. It is anticipated that this article would inspire REBT practitioners working in sport to include the credo into their work with athletes. More broadly, it is anticipated that practitioners would be motivated to look more into REBT for comparable transferrable strategies

Gilchrist, J. D., Fong, A. J., Herbison, J. D., & Sabiston, C. M. (2018) Conducted a study on Feelings of pride are associated with grit in student-athletes and recreational runners and found the study give evidence in favor of the claimed link between pride and grit Authentic pride experiences may be

crucial goals for facilitating goal-striving and goal accomplishment in sport and exercise environments. Experiences of genuine pride appear to be a crucial avenue for developing grit and therefore One method for achieving this goal is to target attributions for success by concentrating on an individual's effort. This area of study adds value by extending the availability of current emotions and methods to rely on for enhanced well-being and increased participation in sport and exercise. Furthermore, early data supports the usefulness of therapies aiming to develop comparable resources, such as resilience and social and personal skills, through promoting positive emotionality (Cohn et al., 2009). Fredrickson et al., 2003; Gable, Gonzaga, & Strachman, 2006).

Joseph, A. I. (2009) Investigated The role of grit in predicting performance in collegiate athletes Found that neither grit nor mental toughness are reliable predictors of athletic performance. Other factors must be considered when identifying elite athletes.

Ueno, Y., Suyama, S, Oshio, A. (2018) investigated Relation between grit, competitive levels, and athletic events in Japanese athletes and found that grit is not directly related to competitive levels, but the interaction of grit with athletic events can predict competitive levels that are likely to be achieved. The interaction of consistency of interest and participation in athletic events were found to be marginally associated, and perseverance of effort was irrelevant. In closed-skills sports, consistency of interest was positively correlated to competitive levels, whereas in open-skills sports a negative association prevailed. These findings suggest that the combination of grit and participation in athletic events has an interactive relation to the competitive levels that are likely to be achieved.

Moles, T. A., Auerbach, A. D., & Petrie, T. A. (2017) investigated Grit Happens: Moderating Effects on Motivational Feedback and Sport Performance found that Athletes who received mastery involving feedback performed significantly better on the task compared with athletes who received ego-involving feedback, outscoring them by 18.12%. The enhanced performance was primarily due to the facilitative effects of the mastery-involving feedback, as opposed to decrements that occurred in the players' scores in the ego-involving condition. Further, this effect was moderated by the athletes' level of grit, such that feedback was most influential for the athletes who reported low levels of grit. Our findings experimentally demonstrate that the receipt of mastery- involving motivational feedback leads to

performance improvements and that social agents who define the sport motivational climate for athletes (e.g., coaches, teammates, parents) should focus on effort, hard work, intensity, and attention in their comments. Additional research is needed to examine the long-term effects of such feedback on athletes' performances.

L., Thomsen, D. K., & Olesen, M. H. (2020) investigated Elite athletes are higher on Grit than a comparison sample of non-athletes and found that Grit and conscientiousness were highly related, but whereas grit was higher in a group of elite athletes compared to a control group of non-athletes, conscientiousness was higher in the control group compared to the elite athletes. This suggests that the two concepts, although related, are distinct. It also confirms and extends prior studies showing that grit is important for expert performance.

Tedesqui, R. A. B., & Young, B. W. (2017) conducted Investigating grit variables and their relations with practice and skill groups in developing sport experts found that skill-group differences on PE, associations between PE (Perseverance of effort) and practice measures, and inverse associations between CI (Consistency of Interest) and measures representing threats to commitment. Although they expected PE and CI to have differences in the strength of their associations with practice-related measures, in fact, they found that the two grit variables showed different associations with their outcome measures. These findings suggest that while the dispositional consistency of one's interests may help athletes remain committed to their sport, the tendency to work hard toward long-term goals might enable them to persist with practice activities that are pivotal to expertise development.

Mosewich, A. D., Dunn, J. G. H., Causgrove Dunn, J., & Wright, K. S. (2021) investigated Domain-specific grit, identity, and self-compassion in intercollegiate athletes found that Student-athletes demonstrated significantly higher grit in sport than on the school- and domain-general measures, and significantly higher athletic identity than academic identity. Self-compassion levels did not differ significantly across contexts. Regression results indicated that measures of academic grit and academic identity were stronger predictors of academic attainment than the domain-general measure of grit. Regression results also indicated that (a) larger differences in academic grit over sport grit, and larger differences in academic identity over athletic identity were associated with higher academic attainment

and (b) larger differences in sport grit over academic grit, and larger differences in athletic identity over academic identity were associated with lower academic attainment.

Doorley, D. J., Kashdan, B. T., Weppner, H. C., Glass, R. C., (2021) investigated The effects of self-compassion on daily emotion regulation and performance rebound among college athletes: Comparisons with confidence, grit, and hope and found that SC (Self Compassion) and the use of cognitive reappraisal in reaction to negative circumstances was predicted by sport-specific hope. Surprisingly, seeking social assistance was linked to a higher level of negative feelings on average. Higher degrees of SC, grit, and sport-specific hope (but not sport self-confidence) seemed to reduce this link. SC, grit, and sport-specific hope all predicted increased subjective performance during the next day's practice by 7.8–10.9% when athletes' subjective performance during practice dropped 1 SD below their two-week mean. Sport confidence showed little effect, indicating that coaches and sport psychology experts should instead concentrate on fostering SC.

Albert, E., Petrie, T. A., & Moore, E. W. G. (2019) investigate The relationship of motivational climates, mindsets, and goal orientations to grit in male adolescent soccer players and found that task-oriented AMT constructs are associated with athletes' grit levels. Specifically, the more the athletes viewed hard work and effort as essential for success (i.e. endorsed a task goal orientation) and believed their abilities were malleable (i.e. endorsed a growth mindset), the more likely they were to report having higher levels of grit; findings that are consistent with other AMT research that has examined grit. As the relationships between the AMT constructs and grit are affirmed through additional correlational studies, researchers then can employ longitudinal approaches to determine if certain climates may, over time, foster the development of task goal orientations, as well as growth mindsets, and ultimately athletes' grit. Being "gritty" may serve athletes well as they pursue longer-term goals in and out of sport, particularly by helping them maintain consistent effort and engagement to improve their performance and position in their sport. Ultimately, understanding grit through AMT may provide coaches and parents with a framework for helping to develop athletes' passion, persistence, and pursuit of long-term goals in sport.

Criticos, M., Layne, T., Simonton, K., Irwin, C., (2020) investigate Gender differences with anxiety, perceived competence, and grit in collegiate track and field throwers and found that for coaches

to avoid pitfalls with the male/female athletes there needs to be a better way to prepare and support the athletes for these moments. By taking the grit scale at the start of the season, coaches will have a better understanding of each athlete's personality and how they reach maximum performance efficiency. In addition, coaches can make adjustments in order to increase practice efficiency for each athlete. By incorporating cost efficient measurement tools, coaches are utilizing available resources to enhance the overall experience for the athlete.

Cardoso, F.L., & Sacomori, C., (2014) investigated Resilience of athletes with physical disabilities: A cross-sectional study and found that Athletes presented a moderate index of resilience and were, on average, lower than those in studies on able-bodied populations. Consequently, there appears to be clinical potential for the development of resilience in this population that, indirectly, could contribute to an improvement in sporting performance. Fletcher, D., & Sarkar, M. (2012) investigated A grounded theory of psychological resilience in Olympic champions and found that a variety of psychological characteristics (related to a positive personality, drive, confidence, attention, and perceived social support) buffer the world's top athletes from the potential detrimental effects of stresses by altering their challenge assessment and meta-cognitions. These pathways encourage facilitative reactions, which precede peak athletic performance. The emergent theory gives sport psychologists, coaches, and national sport organizations a better understanding of the role of resilience in players' lives and the achievement of peak athletic performance.

Schinke, R. J., & Jerome, W. C. (2002) investigated Understanding and refining the resilience of elite athletes: An intervention strategy and found that training of these groups indicates that performance can be improved in challenging settings through the development of targeted cognitive skills. The present authors provide an overview of 3 general optimism skills that can be honed for national teams, explaining how each one can be taught as part of a broader comprehensive resilience program. Recommendations are provided for sport psychology researchers and consultants, coach staff, and team management interested in assisting elite athletes in improving performance in adverse competitive situations.

Turner, M. J. (2016) investigate Proposing a rational resilience credo for use with athletes and found that the article presents the ARRC as a valuable tool to help athletes develop reasonable ideas that

can assist individuals in responding to hardship in a resilient manner. The ARRC is not a cure-all for irrational ideas, but it can accelerate the rate at which athletes can replace illogical views with rational beliefs if they follow it. Existing research and REBT theory clearly support the development of rational beliefs for effective emotional and behavioral responses, and the REBT therapeutic ABCDE process has been successfully verified in non-sports and sporting settings (e.g., Turner, 2014). Techniques that can help with this process are useful in sport research since this literature on REBT is still limited. The ARRC represents a sport-relevant credo that may be used in a variety of adaptable ways to develop an athlete's conviction in their logical views, based on Dryden's (2007) original Rational Resilience Credo. Doğan, E., (2019) investigated Examination of the Psychological Resilience of Athletes Dealing With Different Team Sports and found that athletes engaged in different team sports had similar psychological resilience. This situation is due to the fact that all athletes try to prove themselves for success within the team and they adapt themselves to the needs of their branches with extra motivation for success.

Schinke, J. R., Peterson, C., Couture, R., (2004) investigated A Protocol for Teaching Resilience to High Performance Athletes and found that Though the skills proposed in this paper develop with practice (Peterson, 2000), they begin working immediately by providing hope to athletes through enhanced cognitive and emotional control. As a result, great athletes must practise their newly acquired resilience skills daily. Based on refinements from our elite athlete (Schinke & Peterson, 2002b) and coaching manuals (2002c), the resilience skills proposed herein are useful because they provide several methodical step-by-step roadmaps of how elite athletes and those who are assisting them can work through adversity. Far too frequently, great athletes feel disheartened because they are unable to demonstrate their athletic abilities in the face of hardship. To achieve continued resilience gains, support workers must reduce their engagement in the specified skills to the point of invisibility and monitoring. Only then will resilience be able to endure the test of bad performance circumstances, considering the frequency with which support staff changes occur among national teams.

Fletcher, D., & Sarkar, M. (2016) investigated An introduction to the special issue: Developing resilience and found that a mental fortitude training program—an evidence based strategy to building psychological resilience for long-term success. For potential performers, the curriculum enables a holistic

and methodical approach to developing resilience. Then, Stephen P. Gonzalez, Nicole Detling, and Nick A. Galli provides three case studies of exceptional athletes building resilience. They give advice for practitioners who want to help athletes build resilience based on their experiences and reflections. Also, Martin J. Turner focuses on the potential of Rational Emotive Behavior Therapy in developing resilience in athletes. He outlines the main components of a sport specific approach and discusses its application in practice. Lastly, Hamish Cox, Rich Neil, John Oliver, and Sheldon Hanton investigate how resilience-related life skills might help teenagers overcome challenges outside of sports. They make suggestions based on their expertise planning and delivering a resilience-based life skills programme.

Machida, M., Irwin, B., & Feltz, D. (2013) investigated Resilience in Competitive Athletes With Spinal Cord Injury and found that the development of resilience is a multifactorial process involving pre-existing factors and pre-adversity experiences, disturbance/disturbing emotions, various types and sources of social support, special opportunities and experiences, a variety of behavioral and cognitive coping techniques, drive to adapt to challenges, and learning characteristics or benefits from the resilience process.

Research Gap

Future research can focus on the same variables with a larger population. And can look forward to finding if there are possible results contradicting the result of this research and the one study which was referred that too used the same variables but on a relatively smaller sample.

CHAPTER III

METHOD

Research Design

This study is based on Quantitative Research Design to assess Resilience and Grit among Athletes and Non-Athletes.

Statement of the Problem

The purpose of this Study is to assess Resilience and Grit among Athletes and Non-Athletes.

Objective of the Study

1. To assess if there is a significant difference in Resilience among Athletes and Non-athletes.
2. To assess if there is a significant difference in Grit among Athletes and Non- athletes.
3. To assess is there is a significant correlation between Resilience and Grit among athlete
4. To assess if there is a significant correlation between Resilience and Grit among non-athletes.

Hypotheses

H01: There is no significant difference in resilience among athletes and non- athletes

H02: There is no significant difference in grit among athletes and non-athletes.

H03: There is no significant correlation between resilience and grit among athlete

H04: There is no significant correlation between resilience and grit among non- athletes

Operational Definitions

1. Grit: Grit is passion and sustained persistence applied toward long-term achievement, with no particular concern for rewards or recognition along the way. Duckworth et al. (2007)
2. Resilience: An interactive concept that is concerned with the combination of serious risk experiences and a relatively positive psychological outcome despite those experiences. (Rutter, 2006)

Variables

1. Resilience

2. Grit
3. Athletic performance

Universe of the Study

The population of the study is composed of athletes and non- athletes between the age group of 16-27 from India.

Geographical Area

This study is conducted in the Indian Population.

Sample and Sampling Technique

The research was conducted among 166 young adults, among which 83 were athletes and 83 were non-athletes. The non-probability sampling method was used to sample the population.

Research Ethics

1. It is voluntary. The participants have the right to withdraw from the study at any point if they wish to do so.
2. Research participants will not be subjected to harm in any way, whatsoever.
3. Respect for the dignity of research participants will be prioritized.
4. Full consent will be obtained from the participants prior to the study
5. The protection of privacy of the research participants will be ensured.
6. Adequate level of confidentiality of the research data will be ensured.

Tools

1. Grit Scale (Duckworth, Peterson, Matthews & Kelly, 2007). The Grit scale was designed for assessment of levels of Grit through self-report. The items are developed to measure levels of Grit across varied situations. Respondents are instructed to rate each item on a five-point scale ranging from “Very

much like me” to “Not like me at all”. The Grit Scale shows a consistent validity and has a Cronbach Alpha reliability score of 0.85.

2. Bharathiar University Resilience Scale (Annalakshmi, 2009). BU Resilience scale is a self-report questionnaire that assesses psychological resilience. The scale has a total of 30 items and has been standardized in the Indian population. Items have a five-point scale ranging from “Not at all appropriate in describing you” to “Most appropriate in describing you”. The total score of the subject represents their Resilience. The Cronbach’s Alpha score of the scale is 0.876.

Statistical Analysis

Descriptive and inferential statistical methods were used in the study. The variables were tested for normality initially. The mean, standard deviation and the variance of the variables were found. Then, a t-test was conducted on the data of the variables to find the significant difference in the dependent variable based on the categories of the independent variables, and a correlation test was conducted on the data of the dependent variables to find the relationship between them.

CHAPTER IV

RESULT AND DISCUSSION

The purpose of the study is to Assess Resilience and Grit Among Athletes and Non-Athletes among the age group 16-27. The data was collected using Google form using the Bharathiar University Resilience Scale (2009) and 12-item Grit Scale (2007). A total of 166 participants were selected for this sample. The collected data was analyzed by SPSS.

H01: There is no significant difference in Resilience among Athletes and Non- Athletes**Table 1**

Independent Sample t-test of Resilience and among Athletes and Non-Athletes

		N	Mean	D	t	f	ρ
Resilience	Non-Athletes	83	14.68	2.86	4.44*	264	.001
	Athletes	83	13.10	2.96		263.70	

Note* (p<0.05)

Table 1 shows that the mean value of resilience for non-athletes and athletes are 14.68 and 13.10 respectively. The t value of Resilience among Athletes and Non-Athletes is 4.44 (p<0.05), therefore the hypothesis “there is no significant difference in Resilience among Athletes and Non-Athletes” is rejected. Hence, there is a significant difference in Resilience among Athletes and Non-Athletes. Non- athletes showed a higher mean resilience compared to athletes.

H02: There is no significant difference in Grit among Athletes and Non-Athletes**Table 2**

Independent Sample t-test of Grit and among Athletes and Non-Athletes

		N	Mean	D	t	f	p
Grit	Non-Athletes	83	17.72	4.88	2.88*	264	.04

Athletes	83	16.10	4.27	259.40
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Note* (p<0.05)

Table 2 shows that the mean value of grit for non-athletes and athletes are 17.72 and 16.10 respectively. The t value of Grit among Athletes and Non-Athletes is 2.88 (p<0.05), therefore the hypothesis “there is no significant difference in Grit among Athletes and Non athletes” is rejected. Hence, there is a significant difference in Grit among Athletes and Non-Athletes. Non- athletes showed a higher mean grit compared to athletes.

Ho3: There is no significance Correlation between Resilience and Grit among Athletes

Table 3

Showing Correlation between Resilience and Grit among Athletes

		Resilience
Grit	Pearson Correlation	.070*
	Sig. (2-tailed)	.550

Note* (p>0.05)

Table 3 shows correlation between Resilience and Grit among Athletes. The table shows a correlation, $r=0.070$ (p>0.05). The null hypothesis “there is no significant correlation between Resilience and Grit among Athletes” is accepted. Hence, there is no significant correlation between Resilience and Grit among Athletes.

Ho4: There is no Significant Correlation between Resilience and Grit among Non-Athletes**Table 4***Showing Correlation between Resilience and Grit among Non-Athletes*

		Resilience
Grit	Pearson Correlation	.248*
	Sig. (2-tailed)	.019

Table 4 shows correlation between Resilience and Grit among Non-athletes. The table shows a correlation, $r = 0.248$ ($p < 0.05$). The null hypothesis “there is no significant correlation between Resilience and Grit among Non-athletes” is rejected. Hence, there is a low positive significant correlation between Resilience and Grit among Non-athletes. A study by Meyer, Shatto, Kuljeerung, Nuccio, Bergen, & Wilson (2020) concluded that resilience and grit are inter-related concepts and are statistically correlated with each other.

CHAPTER V**SUMMARY AND CONCLUSION**

The study is assessing the relationship between resilience and grit among athletes and non-athletes. The research was conducted among 166 young adults, among which 83 were athletes and 83 were non-athletes. The data was collected through google forms following the ethics of research. The findings of the study can be concluded as:

- There is a significant difference in Resilience among Athletes and Non-Athletes.
- There is significant difference in Grit among Athletes and Non-Athletes
- There is a low positive significant correlation between Resilience and Grit among Non-athletes.

Non- athletes showed a higher mean resilience compared to athletes. Also, non- athletes showed a higher mean grit compared to athletes.

Implications

Based on the study findings non- athletes showed a higher mean resilience and higher mean grit compared to athletes. This may be because of the failures and poor performances that athletes are constantly facing in their daily life. The constant drawbacks in their performance may affect their need to bounce back in performance and drive to persevere. The continuous pressure and stress to improve and produce better outcomes may decelerate their motive and intend. The study findings can imply that the daily circumstances of athletes and the pressure of being an athlete may degrade their resilience and grit. The study findings can suggest that the pressures and stress on athletes should be reduced and circumstances to improve their performance must be enhanced and upgraded to sufficiently meet their psychological needs to persevere towards their goals and to face failures effectively and move past them.

Limitations of the Study

- The study was conducted in a sample of 166 which is a very small sample compared to the huge population of young adults in India.
- The difference in the athletic sport may affect the study and the differences were not considered in the study.

Scope for future Research:

- The numbers of Participants can be increased.
- Researchers can Incorporate different variables and Statistical analysis to create more qualitative Research.
- Differentiation of Athletes according to their sports can help raised awareness and the research be more constructive.

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APPENDICES

APPENDIX I

INFORMED CONSENT:

Please read the following information and give your consent to be a part of the study

I am D Jamgoulen Kipgen, a student at Kristu Jayanti College, Bangalore pursuing my Masters in Counseling Psychology. I am conducting research as part of the requirements of my postgraduate studies.

The Study:

The purpose of this study is to assess resilience and grit among athletes and non-athletes. There is no right or wrong answer. All you have to do is answer what is true for you.

The Process

Your participation in the study will involve the filling of a questionnaire, which does not have a time limit. It will take approximately 15 – 20 mins for you to complete this questionnaire. The responses in the questionnaire will be used to analyze the results. Please note that findings from this study may be published and used for academic purposes.

Potential Risks

This study poses little to no risk to its participants. Confidentiality is maintained by not citing your actual name within the actual study. Your participation in the study is voluntary and you may choose to leave the study at any time without any penalty.

You may also request that any data collected from you not be used in the study. Your participation will help the research since your views are important.

If you have any queries, feel free to contact Jamgoulen Kipgen(jgoulenkipgen17@gmail.com)

APPENDIX II**BHARATHIAR UNIVERSITY RESILIENCE SCALE (FORM A)**

Name: Gender: Age & Date of Birth:

Education: Occupation:

Address for Communication:

Kindly go through each one of the statements given in the questionnaire carefully.

Judge whether the statement concerned is true in your case or not. Mark your judgment with regard to each of the statement in the questionnaire using the following code:

Write 5 if the statement is most appropriate in describing you

Write 4 if the statement is appropriate to a large extent in describing

you Write 3 if the statement is moderately appropriate in describing

you Write 2 if the statement is marginally appropriate in describing

you Write 1 if the statement is not at all appropriate in describing

you

Answer as quickly as possible. DO NOT OMIT ANY STATEMENT.

No	Statement	Response
1	I can remain balanced in my emotion irrespective of whether I succeed or fail in my efforts.	1 2 3 4 5
2	I can easily revise my plans without accepting defeat when I get stuck up.	1 2 3 4 5
3	I usually get back to my cheerful self pretty soon no matter what failures occur in my life.	1 2 3 4 5
4	When the situation is very demanding I can pull up myself and handle all of it efficiently.	1 2 3 4 5

5	I do not waste my time on lamenting over the past however bad it might have been.	1 2 3 4 5
6	During times of trouble I sink feeling helpless.	1 2 3 4 5
7	I easily breakdown at the crisis and it takes longer time for me recover myself.	1 2 3 4 5
8	People say that I have a strong heart which can withstand any disappointment.	1 2 3 4 5
9	I can recover from bad mood quickly and easily after facing any sad event.	1 2 3 4 5
10	I suffocate a lot when facing problems.	1 2 3 4 5
11	When in trouble I get impatient and am impulsive.	1 2 3 4 5
12	Challenges are not problems but are opportunities for rising to the occasion.	1 2 3 4 5
13	My efficiency significantly drops down at difficult times.	1 2 3 4 5
14	When I fight, I fight only to have the gusto feelings it gives me, no matter whether I am going to win or lose.	1 2 3 4 5
15	When I am in a difficult situation, I can usually find my out of it.	1 2 3 4 5
16	I don't venture on any project where I had failed earlier.	1 2 3 4 5

17	I cannot recover from frustration for long time.	1 2 3 4 5
18	Life will be barren if there were no problem at all.	1 2 3 4 5
19	I stay cool even when things don't go the way I expect.	1 2 3 4 5
20	I can handle any critical situation with confidence since I have successfully done so earlier.	1 2 3 4 5
21	Nothing can stop me from proceeding on any task once I begin my work.	1 2 3 4 5
22	Even a severe set back can only make me to bend down but never to break down.	1 2 3 4 5
23	If am defeated in anything the first thing that comes to my mind is how to bounce out of it.	1 2 3 4 5
24	I usually get so confused about which way to move when I face problems.	1 2 3 4 5
25	Problems do not ditch me out of my sources but enrich me with finding new resources.	1 2 3 4 5
26	Whether the disappointment is small or big I feel miserable about it.	1 2 3 4 5
27	The greater the problem I confront with the greater will be my efforts to solve them.	1 2 3 4 5
28	I feel so weak to begin any venture as I have experienced a large number of frustrations in life.	1 2 3 4 5

29	Past failures can not deter me from taking up any project I want to take.	1 2 3 4 5
30	Failures and frustrations can never deter me from my efforts for long.	1 2 3 4 5

SCORING SCHEME – FORM A

Positive Items: 1-5, 8-9, 12, 14-15, 18-23, 25, 27, 29-30

For all the positive items the scoring is done in the following fashion:

Response of 1 will get a score of 1

Response of 2 will get a score of 2

Response of 3 will get a score of 3

Response of 4 will get a score of 4

Response of 5 will get a score of 5

Negative Items: 6-7, 10-11, 13, 16-17, 24, 26, 28

For all the negative items the scoring is done in the following fashion:

Response of 1 will get a score of 5

Response of 2 will get a score of 4

Response of 3 will get a score of 3

Response of 4 will get a score of 2

Response of 5 will get a score of 1

APPENDIX III

Directions for taking the Grit Scale: Here are a number of statements that may or maynot apply to you. For the most accurate score, when responding, think of how you compare to most people -- not just the people you know well, but most people in theworld. There are no right or wrong answers, so just answer honestly!

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

3. My interests change from year to year.*

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

4. Setbacks do not discourage me.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

all

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

Somewhat like me

6. I am a hard worker.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

9. I finish what I begin.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

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

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

12. I am diligent.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

Grit score:

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

5 = Very much like me

4 = Mostly like me

3 = Somewhat like me

2 = Not much like me

1 = Not like me at all

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

1 = Very much like me

2 = Mostly like me

3 = Somewhat like me

4 = Not much like me

5 = Not like me at all

Step 3: Add up all the points and divide by 12.

APPENDIX 1V

Data sheets

Category	Total	Resil	Grit	Total
1	107	34		
2	115	37		
3	75	32		
4	100	31		
5	92	29		
6	87	31		
7	109	53		
8	78	39		
9	73	32		
10	96	40		
11	114	40		
12	111	37		
13	87	38		
14	115	32		
15	76	34		
16	91	32		
17	97	34		
18	95	45		
19	130	42		
20	95	48		
21	63	26		
22	100	36		
23	99	41		
24	88	43		
25	86	38		
26	116	33		
27	61	37		
28	131	47		
29	89	38		
30	55	34		
31	97	42		
32	93	41		
33	48	39		
34	102	43		

Category	Total	Resil	Grit	Total
36	109	42		
37	85	38		
38	105	44		
39	61	32		
40	72	45		
41	124	35		
42	110	45		
43	73	43		
44	83	32		
45	109	30		
46	88	44		
47	107	37		
48	107	50		
49	46	30		
50	107	32		
51	61	34		
52	46	35		
53	114	41		
54	87	33		
55	94	42		
56	90	34		
57	92	37		
58	114	36		
59	67	37		
60	94	45		
61	80	44		
62	106	29		
63	89	32		
64	98	33		
65	89	45		
66	62	23		
67	77	34		
68	103	32		
69	98	46		
70	89	37		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
71		1	93	40																		
72		1	108	36																		
73		1	97	48																		
74		1	50	30																		
75		1	68	35																		
76		1	99	39																		
77		1	60	32																		
78		1	64	34																		
79		1	110	38																		
80		1	118	34																		
81		1	79	42																		
82		1	62	41																		
83		1	90	36																		
84		1	103	31																		
85		1	96	40																		
86		1	100	44																		
87		1	93	40																		
88		1	112	19																		
89		1	106	40																		
90		1	87	44																		
91		1	115	48																		
92		1	114	29																		
93		2	83	37																		
94		2	96	24																		
95		2	119	40																		
96		2	63	29																		
97		2	30	42																		
98		2	62	43																		
99		2	87	44																		
100		2	68	41																		
101		2	84	32																		
102		2	108	40																		
103		2	124	28																		
104		2	108	35																		
105		2	87	36																		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
106		2	101	48																		
107		2	115	35																		
108		2	87	40																		
109		2	56	39																		
110		2	97	46																		
111		2	110	29																		
112		2	117	38																		
113		2	98	35																		
114		2	92	36																		
115		2	106	34																		
116		2	123	31																		
117		2	106	29																		
118		2	62	38																		
119		2	116	29																		
120		2	88	37																		
121		2	60	35																		
122		2	101	31																		
123		2	92	43																		
124		2	72	31																		
125		2	76	44																		
126		2	88	24																		
127		2	118	47																		
128		2	30	31																		
129		2	99	40																		
130		2	87	22																		
131		2	101	33																		
132		2	89	30																		
133		2	101	28																		
134		2	89	33																		
135		2	94	40																		
136		2	115	35																		
137		2	94	26																		
138		2	58	33																		
139		2	119	36																		
140		2	78	36																		

APPENDIX V**Plagiarism Report**

Date	December 1, 2021
Words	1061 words Plagiarized / 8706 Total words
Remarks	Low Plagiarism Detected



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