

PERSONALITY TRAITS AND GRIT IN AMERICAN TAEKWONDO PRACTITIONERS

RASGOS DE LA PERSONALIDAD Y EL GRIT EN TAEKWONDISTAS ESTADOUNIDENSES

Autores: Guillermo Andrés Sáez Abello¹, Andrés Mauricio Ariza Viviescas^{2*}, Paul Sebastián Once³ Saca, Felipe Andrés Rosas Treuque⁴

- 1- **PhD in Education.** Training and Research Center Educatkd. Manizales, Colombia, ORCID: <https://orcid.org/0000-0003-2711-4190>
- 2- **MSc (c) in Sports Science.** Training and Research Center Educatkd. Bucaramanga, Colombia, ORCID: <https://orcid.org/0000-0002-3157-9575>
- 3- **MSc in Physical Education and Sports Training.** Training and Research Center Educatkd. Azogues, Ecuador, ORCID: <https://orcid.org/0009-0007-6615-0684>
- 4- **Higher Technician in Physical Preparation.** Training and Research Center Educatkd. Santiago de Chile, Chile, ORCID: <https://orcid.org/0009-0004-2021-9162>

Corresponding Author:

Andrés Mauricio Ariza Viviescas, Email: andrecio1@hotmail.com , postal code: 680001

Recibido: 06.01.2025

Aceptado: 15.05.2025

Abstract

Introduction: The study of personality has been a subject of great interest in psychology for decades. Researchers have employed various theories and models to understand the diversity and complexity of personality traits. **Objective:** The aim was to determine the relationship between personality traits and grit in American taekwondo practitioners. **Methodology:** A quantitative, quasi-experimental, and descriptive-correlational study was conducted with a sample of (n=470) American taekwondo practitioners. The Mini-IPIP instrument was used for assessing personality traits, and the Grit Scale was used for measuring grit. **Results:** The athletes' grit scored a median of 4.00, suggesting that this population exhibits high levels of perseverance, in line with the grit scale. Additionally, this population stood out for its high perseverance in effort. Furthermore, it was identified that the trait most strongly associated with taekwondo practitioners was openness to experience (ME 4.00 RIC P25=3.50; P75=4.25), while the trait with the least association was neuroticism (ME 2.50 RIC P25=2.25; P75=3.00). Statistically significant correlations were found in all traits except for the trait of agreeableness. **Conclusion:** It was finally determined that a significant relationship exists between all personality traits (except agreeableness) and grit in this population. It is also noteworthy that neuroticism was the only trait that showed a negative relationship with grit. On the other hand, it was observed that taekwondo practitioners most strongly identified with the trait of openness to experience.

Keywords: Personality traits, Grit, Perseverance, determination, passion, taekwondo practitioners.

Resumen

Introducción: El estudio de la personalidad ha sido un tema de gran interés en la psicología durante décadas. Los investigadores han empleado diversas teorías y modelos para comprender la diversidad y la complejidad de los rasgos de la personalidad. **Objetivo:** fue determinar la relación entre los rasgos de la personalidad y la personalidad grit en taekwondistas estadounidenses. **Metodología:** Estudio cuantitativo, cuasiexperimental y de alcance descriptivo-correlacional realizado en una muestra de (n=470) taekwondistas estadounidenses. Para la evaluación de los rasgos de la personalidad se utilizó el instrumento MINI-IPIP y para el grit, la escala de grit. **Resultados:** el grit de los atletas puntuó una mediana de 4,00, lo que sugiere que esta población posee valores altos de perseverancia en correspondencia con la escala de grit. Asimismo esta población se destacó por poseer una alta perseverancia al esfuerzo. Adicionalmente, se pudo identificar que el rasgo con el que más se identificaron los taekwondistas fue el de la apertura a la experiencia (ME 4,00 RIC P25=3,50; P75=4,25) y con el que menos fue el neuroticismo (ME 2,50 RIC P25=2,25; P75=3,00). Se pudo determinar correlaciones estadísticamente significativas en todos los rasgos a excepción del rasgo de amabilidad. **Conclusión:** Finalmente se pudo identificar que existe una relación significativa entre todos los rasgos de la personalidad (exceptuando el rasgo de amabilidad) y el grit en esta población. Asimismo se destaca que el neuroticismo fue el único rasgo que se relacionó negativamente con el grit. Por otro lado se pudo observar que el rasgo con el que más se identificaron los taekwondistas fue el de la apertura a la experiencia.

Palabras clave: Rasgos de la personalidad, Grit, Perseverancia, determinación, pasión, taekwondistas.

Introduction

The study of personality has been a topic of great interest in psychology for decades. Researchers have employed various theories and models to understand the diversity and complexity of personality traits (Johnson et al., 2016; DeNeve and Cooper, 1998; Allen and Laborde, 2019). One of the most widely recognized and studied models is the "Five-Factor Model" (also known as the Big Five Personality Traits), which identifies five fundamental dimensions of personality: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Each of these factors provides insight into understanding individual differences in personality (Costa and McCrae, 1987; McCrae and Costa, 1999; Jylhä et al., 2009; Costa and McCrae, 1992).

Moreover, the Five-Factor Model is widely acknowledged in the field of psychology, representing fundamental elements for understanding our behaviors and relationships with the environment. Extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience are notable examples of these attributes that shape our personality. These traits have the ability to influence various aspects of our lives, from the quality of our social interactions to our emotional state (Costa and McCrae, 1980; McCrae and Costa, 1999; Jylhä et al., 2009).

In parallel, similar to personality traits, the concept of "grit" has gained relevance in the field of psychology. Grit is associated with the ability to maintain motivation and focus on long-term goals, overcome obstacles, and resist discouragement in the pursuit of significant achievements (Eskreis, Shulman et al., 2014; Eskreis, Shulman, et al., 2021). This trait has been shown to be linked to success in various areas of life, such as academic performance, professional achievement, and athletic performance (Duckworth and Peterson, 2007; Duckworth, 2016). The significance of grit lies in its ability to anticipate long-term success. According to Duckworth and Peterson (2007), grit goes beyond simply possessing talent or innate abilities, as it involves constant commitment and determination to overcome challenges. By developing and fostering grit, individuals can enhance their ability to persist and

achieve significant goals in various areas of their lives, which is crucial when it comes to sports achievements (Duckworth and Peterson, 2007; Duckworth, 2016; Duckworth, Grant, et al., 2011).

Grit is not just a matter of willpower or determination; it is also closely related to personality traits. Studies have explored the connection between grit and personality traits such as openness to experience, extraversion, agreeableness, emotional stability, and conscientiousness. These traits play a crucial role in how individuals approach challenges and persist in their goals (Rimfeld, Kovas et al., 2016; Agerre, Gómez et al., 2012; Ling and Chang, 2017).

In particular, individuals with high levels of grit are often more open to experience. This means they have a greater willingness to try new things, take risks, and explore different opportunities (Eidman and Ladia, 2021; Suzuki, Tamesue et al., 2015). This openness to experience can drive their motivation and commitment to challenging goals, as they are willing to face unknown situations with enthusiasm. Extraversion may also be related to grit. Extroverted individuals tend to be sociable and seek social support, which can be beneficial for maintaining motivation and overcoming obstacles in the pursuit of goals. Agreeableness, involving cooperation and friendly interactions with others, may also influence someone's ability to receive support and encouragement from their environment (Rimfeld, Kovas et al., 2016; Agerre, Gómez et al., 2012; Ling and Chang, 2017).

The relationship between grit and personality traits is an exciting area of research that sheds light on why some people are more persistent and committed in pursuing their goals. These personality traits influence motivation, resilience, and the willingness to take on challenges, which, in turn, affects a person's ability to maintain their grit (Rimfeld, Kovas et al., 2016; Agerre, Gómez et al., 2012; Ling and Chang, 2017; Duckworth and Peterson, 2007; Duckworth, 2016). Understanding this relationship provides valuable information on how to foster long-term perseverance and passion in achieving our own goals (Duckworth and Peterson, 2007; Duckworth, 2016). Performance in sports is not limited solely to physical ability; personality and determination (grit) play essential roles (Portillo, 2011; Vargas, 2010). Understanding an athlete's personality traits, such as their level of extraversion, emotional stability, or openness to new experiences, is beneficial for coaches and athletes to adapt training and motivation strategies that align with individual characteristics. This approach, in turn, contributes to enhancing performance and satisfaction in sports (Portillo, 2011; Vargas, 2010).

The assessment of personality traits can shed light on an athlete's strengths and weaknesses in relation to their grit. For example, an athlete with a high level of emotional stability might exhibit greater resilience in pressure situations, while someone highly extroverted might excel in team sports. This information provides the foundation for designing specific training programs aimed at leveraging strengths and addressing areas for improvement (Gonzales, 2021; Eskreis, Shulman et al., 2014; Eskreis, Shulman, et al., 2021; Duckworth, 2016).

Understanding the connection between grit and personality enables athletes and coaches to develop specific strategies to strengthen long-term perseverance and passion. For instance, if an athlete shows a low score in grit and high levels of neuroticism, they could benefit from stress and emotion management techniques to increase their resilience in challenging circumstances. Additionally, personality and grit assessment in athletes contribute to identifying potential risk factors for burnout, anxiety, or depression (Rimfeld, Kovas et al., 2016; Agerre, Gómez et al., 2012; Duckworth and Peterson, 2007; Duckworth, 2016). This enables the implementation of early preventive interventions that protect athletes' mental health and promote a healthier sports environment overall. Therefore, the objective of this study was to determine the relationship between personality traits and grit, including its sub-scales, aiming to identify the most determining trait.

Methodology

Design

A quantitative study with a quasi-experimental design and a descriptive-correlational scope was conducted among elite taekwondo athletes affiliated with the United States Taekwondo National Organization (USATKD) during the year 2023.

Population and Sample

The study group consisted of (n=470) participants from various categories, selected through a convenient non-probabilistic sampling method by the researchers. Inclusion criteria required participants to be volunteers, members affiliated with USA Taekwondo (USAT), free from any musculoskeletal discomfort, disturbance, or injury, and having completed all study stages. Informed consent and assent from underage athletes were obtained through appropriate signatures.

Measurement Instruments

The MINI-IPIP scale, a compact version of the IPIP-FFM scale, was used to measure the Big Five personality traits: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect/Imagination. This instrument consists of 20 items evaluating each trait. Participants express their agreement level using a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). It is noteworthy that some scale items are presented in the opposite direction, such as the statement "I am not interested in other people's problems."

The MINI-IPIP has demonstrated reliability, supported by consistency in repeated tests and validity in terms of its ability to relate convergently, discriminatively, and with predefined criteria, according to previous research (Donnellan et al., 2006; Cooper et al., 2010). To calculate the total score for each trait, individual scale item scores are summed. Interpretation is as follows: a higher score in a specific trait indicates a greater inclination toward that trait.

For grit evaluation, the Grit Scale questionnaire, created by Angela Duckworth and Christopher Peterson in 2007 (Duckworth & Peterson, 2007), was employed. The Grit Scale is a self-report questionnaire consisting of two dimensions: consistency of interest, reflecting interest in long-term goals, and perseverance, measuring determination and persistence in the face of obstacles (Duckworth et al., 2007). This questionnaire comprises 12 questions, each with a 5-point Likert scale response ranging from 1 (not at all like me) to 5 (very much like me). Sample questions include statements like "I am committed to long-term goals" and "I like having a set of goals to work towards" (Duckworth et al., 2007).

The Grit Scale has demonstrated strong internal consistency and construct validity, yielding consistent results across diverse populations and cultural contexts (Credé et al., 2017; Eskreis-Winkler et al., 2014). Moreover, it has been utilized in numerous studies across various fields, including education, sports, and health (Eskreis-Winkler et al., 2014).

Ethical Considerations

Strict adherence to the guidelines established by the 1974 Human Subjects Protection Act and the 2013 Helsinki Declaration was ensured. Complete information about the research objectives, procedures involved, voluntary

nature of participation, and the assurance of absolute confidentiality of personal data was provided to participants. Informed consent was obtained, signed by each participant. Participant codes were assigned in the database instead of using their names to maximize privacy.

Statistical Analysis

All collected data were recorded in an Excel spreadsheet and analyzed using SPSS Version 25. Categorical variables were described in terms of percentages and frequencies, while continuous variables were expressed based on the normality of their distribution, using means and standard deviations or medians and interquartile ranges as appropriate. The Kolmogorov-Smirnov test (>50 samples) was employed for fundamental variables' normality assessment. Pearson correlation test was applied for bivariate analysis, with a significance level set at $p < 0.005$.

Resultados

The group of taekwondo practitioners from the USAT in the United States that was examined showed diversity in terms of categories, consisting of ($n=153$) cadet athletes, ($n=149$) junior athletes, and ($n=168$) senior athletes. In terms of gender, the study included ($n=265$) males and ($n=205$) females. The average age of the athletes was 15.2 ± 3.75 years.

Table 1. Sociodemographic Characteristics of the Population

Características	N	%
Athletes' Gender		
Male	265	56.38
Female	205	43.62
Total	470	100
Athletes' Category		
Cadet	153	32.55
Junior	149	31.7
Senior	168	35.74
Total	470	100
	M	SD
Age of Athletes	15.28	± 3.75

*Note: M = mean; SD = standard deviation

According to the results presented in both Table 2, it can be identified that the fundamental variables in this study exhibited a non-normal distribution, as their significance was $p < 0.005$. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted.

Table 2. Kolmogorov-Smirnov Test for Fundamental Variables

Characteristics	N	Test Statistic	Significance
Grit	470	0.063	0.001
Grit: Consistency of Interest	470	0.099	0.001
Grit: Perseverance of Effort	470	0.100	0,001
Extraversion	470	0.088	0,001
Neuroticism	470	0.085	0,001
Agreeableness	470	0.085	0,001
Openness to Experience	470	0.089	0,001
Conscientiousness	470	0.091	0,001

Regarding the findings obtained in the measures of central tendency and dispersion, it was identified that the athletes' grit scored a median of 4.00, suggesting that this population has high levels of perseverance according to the grit scale. Additionally, this population stood out for having high perseverance in effort. Furthermore, it was identified that the trait most identified by taekwondo practitioners was openness to experience (Median 4.00, IQR $P_{25}=3.50$; $P_{75}=4.25$), and the least identified trait was neuroticism (Median 2.50, IQR $P_{25}=2.25$; $P_{75}=3.00$).

Table 3. Measures of central tendency and dispersion of fundamental variables

Characteristics	N	M	SD	ME	IQR
Grit	470	3.96	± 0.49	4.00	P25=3.60; P75=4.30
Grit: Consistency of Interest	470	3.82	± 0.69	3.80	P25=3.40; P75=4.40
Grit: Perseverance of Effort	470	4.10	± 0.52	4.20	P25=3.80; P75=4.40
Extraversion	470	3.18	± 0.89	3.25	P25=2.50; P75=4.00
Neuroticism	470	2.56	± 0.63	2.50	P25=2.25; P75=3.00
Agreeableness	470	3.73	± 0.75	3.73	P25=3.25; P75=4.25
Openness to Experience	470	3.86	± 0.67	4.00	P25=3.50; P75=4.25
Conscientiousness	470	3.76	± 0.74	3.76	P25=3.25 P75=4.25

*Note: M = mean; ME = median; SD = standard deviation; IQR = interquartile range; P25 = 25th percentile; P75 = 75th percentile;

Bivariate analysis through the Spearman correlation coefficient revealed significant relationships between personality traits and grit (perseverance and passion for long-term goals). These findings include: Neuroticism showed a negative and statistically significant correlation with grit and its sub-scales. This suggests that individuals with lower levels of neuroticism tend to be more perseverant and passionate in achieving their goals. Extraversion demonstrated a positive and statistically significant correlation with grit overall, as well as with the sub-scale of perseverance of effort. This indicates that more extroverted individuals tend to be more perseverant and passionate in the pursuit of their goals. Conversely, agreeableness did not show a significant correlation with grit. Openness to

experience revealed significant and positive relationships with both overall grit and its two sub-scales. This suggests that those with higher openness to new experiences tend to be more perseverant and passionate in achieving their long-term goals. Finally, conscientiousness also showed a positive correlation with overall grit, perseverance of effort, and consistency of interest. This indicates that individuals with a high degree of conscientiousness tend to be more perseverant and passionate in pursuing their goals and exhibit greater consistency in their interest towards them.

Table 4. Spearman Correlation between Variables of Interest

Characteristics	Grit		Grit: Consistency of Interest		Grit: Consistency of Interest	
	Spearman's Rho coefficient	P value	Spearman's Rho coefficient	P value	Spearman's Rho coefficient	P value
Extraversion	0.106	0.021*	0.068	0.139	0.092	0.042*
Neuroticism	-0.152	0.001**	-0.117	0.012*	-0.153	0.001**
Agreeableness	0.016	0.736	0.024	0.611	0.002	0.973
Openness to Experience	0.186	0.001**	0.175	0.001**	0.141	0.002**
Conscientiousness	0.281	0.001**	0.255	0.001**	0.210	0.001**

Discussion

The purpose of this study was to determine the relationship between personality traits based on the Five-Factor Model and grit. According to the findings, all traits, except for agreeableness, were significantly related to grit. Additionally, a negative correlation between neuroticism and grit was identified, suggesting that higher neuroticism is associated with lower grit (determination).

The inverse relationship between grit (long-term perseverance and passion) and neuroticism implies that individuals with higher levels of grit tend to exhibit lower levels of neuroticism. In other words, individuals who are more persistent and committed in achieving their goals tend to experience fewer negative emotions or emotional instability (Duckworth & Peterson, 2007; Duckworth, 2016). This relationship is grounded in the idea that

perseverance and long-term passion may be linked to greater emotional stability and a reduced tendency toward anxiety, stress, or worry (Moen & Olsen, 2020; Eagleton et al., 2007; Walker, 2017).

Furthermore, openness to experience, a trait strongly identified by taekwondo athletes, was positively and significantly related to grit. Literature suggests that individuals with high grit often possess a strong learning mindset and are willing to invest time and effort in self-improvement and goal achievement (Duckworth & Peterson, 2007; Duckworth, 2016; Eskreis-Winkler et al., 2014). This learning mindset aligns with openness to experience, as individuals open to new experiences are also willing to learn, explore, and acquire new knowledge (Eidman & Lavia, 2021; Insenberg et al., 2020).

Moreover, openness to experience implies a willingness to explore new ideas, concepts, and approaches. Individuals with high openness to experience tend to try different approaches and are open to creativity and innovation. This may lead to the pursuit of creative and alternative solutions when facing challenges, directly relating to the perseverance and long-term passion aspects of grit (Duckworth, 2011). Additionally, this trait is associated with tolerance for ambiguity and uncertainty. Individuals open to new experiences are often willing to accept uncertain situations and adapt to them. This tolerance for ambiguity can be beneficial when pursuing long-term goals, as they often involve facing unknown challenges and obstacles. Both grit and openness to experience can be driven by a passion for learning and personal growth. Those who value exploration and knowledge acquisition often also value long-term achievement and continuous improvement, contributing to a directly proportional relationship between these two characteristics (Eidman & Lavia, 2021; Insenberg et al., 2020).

Regarding the association between personality traits and grit sub-scales, it was identified that neuroticism, openness to experience, and conscientiousness were significantly related to the consistency of interest. Furthermore, all traits except for agreeableness were related to perseverance of effort. Neuroticism is characterized by emotional instability and a tendency to experience anxiety and worry (Ruiz, 2012). In this context, individuals with lower levels of neuroticism may tend to be more consistent in their focus and commitment to goals, reflected in a higher score on the consistency of interest sub-scale of grit. Openness to experience involves a willingness to explore new ideas, be curious, and have an open mind. Individuals with high levels of openness to experience may find it easier to maintain constant interest in their goals, as they are willing to explore different aspects and approaches related to those goals. Conscientiousness refers to self-discipline, organization, and the ability to set and follow goals (Wolfram, William, et al. 2015). Individuals with high conscientiousness tend to be more focused and methodical in pursuing their goals, resulting in greater consistency of interest in their efforts to achieve those goals. Agreeableness is related to empathy and interpersonal cooperation but may not be directly related to perseverance in achieving personal goals. Agreeable individuals may be more inclined to prioritize others' needs over their own, which may not align with perseverance of effort, often involving a more individualistic approach to goal achievement (Eidman & Lavia, 2021; Insenberg et al., 2020).

Regarding personality traits based on the Five-Factor Model, it is observable that elite taekwondo athletes may demonstrate a greater openness to new experiences. This is attributed to factors intrinsically linked to the peculiarities of their sport and personal experiences. Taekwondo is a sport with a prominent international presence, and elite athletes often participate in competitions worldwide (Bridge et al., 2009). This provides them with the opportunity to interact with individuals from diverse cultures and backgrounds, stimulating their inclination to embrace new experiences and perspectives. It is crucial to note that taekwondo is not limited solely to being a sport but also represents a martial art with profound philosophical roots. Practitioners of taekwondo typically exhibit a genuine interest in the philosophy, history, and traditions associated with this discipline (Vargas et al., 2010; Laurin

et al., 2023; Granados et al., 2013). This interest may foster a tendency toward intellectual curiosity and a willingness to consider new ideas. Additionally, taekwondo is a sport that demands creativity in executing its techniques and movements. Elite athletes often explore and develop new strategies and tactics to gain an advantage over their opponents. Competition in elite events generally involves facing athletes from different countries with different taekwondo styles. This may lead athletes to adapt to various competitive approaches and, as a result, develop greater openness to new strategies and methods (Vargas et al., 2010; Laurin et al., 2023; Granados et al., 2013).

Finally, it is crucial to highlight that elite taekwondo athletes show no association with neuroticism, and this can be attributed to several reasons. Firstly, these athletes undergo rigorous physical and mental training, which incorporates techniques for effectively managing stress and anxiety. This preparation equips them with the necessary tools to successfully navigate stressful situations in their athletic careers, reducing the likelihood of experiencing high levels of neuroticism in competitive contexts. Additionally, throughout their careers, elite taekwondo athletes develop robust emotional self-control skills (Granados et al., 2013). They learn to remain calm under pressure, manage their emotions, and avoid impulsive reactions, diminishing their propensity for excessively negative emotional responses. These athletes maintain a performance-focused mindset and a commitment to constant improvement, allowing them to adopt a positive and constructive attitude rather than succumbing to negativity or worry. Resilience is another commonly observed trait in elite athletes, as they have faced challenges, injuries, and defeats in their careers and learned to recover and move forward. This resilience contributes to a lower inclination toward neuroticism (Reche et al., 2020). Lastly, combat sports, such as taekwondo, demand a strong and secure competitive mindset. Elite athletes trust in their abilities and their capacity to overcome opponents, providing them with confidence and self-assurance instead of insecurities related to neuroticism (Vargas et al., 2010; Laurin et al., 2023).

Conclusions

In conclusion, a significant relationship was identified between all personality traits (excluding agreeableness) and grit in this population. Additionally, neuroticism was the only trait negatively related to grit, characterized by individuals who are more persistent and committed in achieving their goals experiencing fewer negative emotions or emotional instability. This relationship is grounded in the idea that perseverance and long-term passion may be linked to greater emotional stability and a reduced tendency toward anxiety, stress, or worry.

Moreover, it was observed that the trait most identified with by taekwondo athletes was openness to experience. This suggests that this is due to the global nature of taekwondo, drawing from a wide range of philosophies and cultural roots. This highly dynamic and evolving sport demands a high level of creativity, strategy, and tactics, stimulating curiosity and a penchant for versatility among its practitioners.

References

1. Aguerre, N. V., Gómez-Ariza, C. J., & Bajo, M. T. (2022). *The relative role of executive control and personality traits in grit*. *Plos one*, 17(6), e0269448.
2. Allen, M. S., & Laborde, S. (2019). *The role of personality in sport and physical activity: An update on empirical evidence and theoretical frameworks*. *Psychology of Sport and Exercise*, 42, 48-58.
3. Bridge, C. A., Jones, M. A., & Drust, B. (2009). *Physiological responses and perceived exertion during international Taekwondo competition*. *International journal of sports physiology and performance*, 4(4), 485-493.

4. Cooper, A. J., Smillie, L. D., & Corr, P. J. (2010). A confirmatory factor analysis of the Mini-IPIP five-factor model personality scale. *Personality and Individual Differences*, 48(5), 688-691.
5. Costa, P. T., & McCrae, R. R. (1992). *NEO PI-R professional manual*. Psychological Assessment Resources.
6. Credé, M., Tynan, M. C., & Harms, P. D. (2017). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*, 113(3), 492-511.
7. Declaración Helsinki (2013). Principios éticos para las investigaciones médicas en seres humanos. Asociación Médica Mundial, 59.
8. DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, 124(2), 197-229.
9. Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: tiny-yet-effective measures of the Big Five factors of personality. *Psychological assessment*, 18(2), 192.
10. Duckworth, A. L. (2016). *Grit: The power of passion and perseverance*. Scribner.
11. Duckworth, A. L., & Peterson, C. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101.
12. Duckworth, A. L., Grant, H., Loew, B., Oettingen, G., & Gollwitzer, P. M. (2011). Self-regulation strategies improve self-discipline in adolescents: Benefits of mental contrasting and implementation intentions. *Educational Psychology*, 31(1), 17-26.
13. Eagleton, J. R., McKelvie, S. J., & De Man, A. (2007). Extra version and neuroticism in team sport participants, individual sport participants, and nonparticipants. *Perceptual and motor skills*, 105(1), 265-275.
14. Eidman, L., & Lavia, N. (2021). Estudio preliminar sobre los rasgos de la personalidad, la perseverancia en el esfuerzo y consistencia en los intereses para la consecución de objetivos en estudiantes universitarios en contexto de pandemia COVID-19. In XIII Congreso Internacional de Investigación y Práctica Profesional en Psicología.
15. Eskreis-Winkler, L., Shulman, E. P., Beal, S. A., & Duckworth, A. L. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology*, 5, 36.
16. Eskreis-Winkler, L., Shulman, E. P., Young, V., Tsukayama, E., Brunwasser, S. M., & Duckworth, A. L. (2021). The gritty athlete: Longitudinal pathways between grit and achievement in the athletic domain. *Journal of Applied Sport Psychology*, 33(2), 107-126.
17. González Zamora, V. H. (2021). Rasgos de personalidad y su impacto en el rendimiento deportivo de futbolistas universitarios (Doctoral dissertation, Universidad Autónoma de Nuevo León).
18. Granados, J. D. T., Ardila, K. A., Quintero, C. C., & Mercado, A. N. (2013). Estudio de las dimensiones de la personalidad en deportistas de alto rendimiento. *CULTURA EDUCACIÓN Y SOCIEDAD*, 4(1).

19. Isenberg, G., Brown, A., DeSantis, J., Veloski, J., & Hojat, M. (2020). *The relationship between grit and selected personality measures in medical students. International journal of medical education*, 11, 25.
20. Johnson, J. A., Goffin, R. D., White, L. A., & Powney, M. J. (2016). *Personality trait predictors and correlates of volunteerism. Personality and Individual Differences*, 98, 201–205.
21. Jylhä, P., Isometsä, E., & The HDI 2010 Expert Group. (2009). *The relationship of neuroticism and extraversion to symptoms of anxiety and depression in the general population. Depression and Anxiety*, 26(7), 644–650.
22. Laurin, L., Abello, G. S., Viviescas, A. A., & Sfeir, L. E. P. (2023). *Rasgos de personalidad con el modelo de los cinco factores MINI-IPIP en taekwondistas. European Journal of Child Development, Education and Psychopathology*, 11(1), 1-13.
23. Lin, C. L. S., & Chang, C. Y. (2017). *Personality and family context in explaining grit of Taiwanese high school students. Eurasia journal of mathematics, science and technology education*, 13(6), 2197-2213.
24. McCrae, R. R., & Costa, P. T. (1987). *Validation of the five-factor model of personality across instruments and observers. Journal of Personality and Social Psychology*, 52(1), 81–90.
25. McCrae, R. R., & Costa, P. T. (1999). *A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (2nd ed., pp. 139–153). Guilford Press.*
26. Moen, F., & Olsen, M. (2020). *Grit: A unique protective factor of coaches well-being and burnout?. New Ideas in Psychology*, 59, 100794.
27. Oficina para la Protección de Sujetos Humanos (OHRP). (1974). 45 CFR Parte 46: Política Federal para la Protección de Sujetos Humanos. Recuperado de <https://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/index.html>
28. Portillo, M. E. (2011). *Personalidad y rendimiento deportivo. Psicología y Psicopedagogía*, 25(1), 1-49.
29. Reche-García, C., Martínez-Rodríguez, A., Gómez-Díaz, M., & Hernández-Morante, J. J. (2020). *Análisis de la resiliencia y dependencia en deportes de combate y otras modalidades deportivas. Suma Psicológica*, 27(2), 70-79.
30. Rimfeld, K., Kovas, Y., Dale, P. S., & Plomin, R. (2016). *True grit and genetics: Predicting academic achievement from personality. Journal of personality and social psychology*, 111(5), 780.
31. Ruiz-Barquín, R. (2012). *Relaciones entre características de personalidad y estados de ánimo: un estudio con deportistas de combate universitarios. Revista iberoamericana de psicología del ejercicio y el deporte.*
32. Suzuki, Y., Tamesue, D., Asahi, K., & Ishikawa, Y. (2015). *Grit and work engagement: A cross-sectional study. PloS one*, 10(9), e0137501.
33. Vargas, P. C., Vargas, G. A. A., & Gerardo, A. (2010). *Perfil de rasgos psicológicos para el rendimiento deportivo en hombres y mujeres practicantes de taekwondo. Revista iberoamericana de psicología del ejercicio y el deporte*, 5(2), 253-265.

34. Walker, C. O. (2017). *Exploring the contributions of grit and personality in the prediction of self-and other-forgiveness. Journal of Individual Differences.*
35. Wolframm, I. A., Williams, J., & Marlin, D. (2015). *The role of personality in equestrian sports: an investigation. Comparative Exercise Physiology, 11(3), 133-144.*

Funding Sources

None

Conflicts of Interest

The authors declare that there are no conflicts of interest.