

A Narrative Review of the Influence of Personality on Athletic Success

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Abstract

Since the creation of the Olympic Games over two millennia ago, athletics has been a way to discover humanity's physical limits. Through training and practice, athletes can achieve feats never reached before. However, as competition becomes more difficult, athletes and coaches have to find new ways to break through barriers and reach new heights in their sport. At high levels of competition, mental training becomes just as important as physical training. By understanding an athlete's personality characteristics and how it can affect performance, competitors and coaches alike can develop and utilize these traits to further athletic success. Through an analysis of various studies, four characteristics have been studied in depth: extroversion, conscientiousness, intrinsic and extrinsic motivation, and self-efficacy. All of these attributes are generally beneficial for an athlete to possess, but each has its drawbacks and nuances. This paper outlines how each facet of personality can affect an athlete and how athletes and coaches can develop these characteristics for success.

Introduction

As athletes set increasingly competitive records, and the human body is pushed to new extremes, the importance of sports psychology has emerged at the forefront of athletic development.

In May of 1954, Roger Bannister became the first human in recorded history to run a mile in under 4 minutes. For thousands of years, experts said it could not be done — the human body had reached its limit. So how did Bannister break a time that was supposed to be impossible? He trained relentlessly physically, but also mentally, using visualization to create a sense of certainty and self-efficacy in his mind. Following Bannister's breakthrough, many others were able to run a mile in under 4 minutes, and today, even high schoolers can break this time. Bannister's story shows us the true power of the mind and how an athlete with the right mentality and personality can push unbelievable boundaries.

A variety of personality factors have a significant effect on an athlete's training habits and approach to sport and competition, thereby impacting an athlete's performance and results (Guo et al., 2021). These variables are all interconnected and contribute to an athlete's ability to use exercise psychology strategies (e.g. self-talk) (Stoyanova et al., 2016), as Bannister did with visualization. By researching and understanding how personality predisposes certain individuals to respond to stressors in a beneficial manner, coaches and athletes can create an environment conducive to success in competition (Stoyanova et al., 2016). This paper aims to explore the relationship between personality and performance in sports, and specifically examines the traits

of extroversion, conscientiousness, intrinsic versus extrinsic motivation, and self-efficacy. The paper will also provide suggestions and explanations for how coaches and athletes can harness beneficial personality traits to achieve high levels of performance in a sport.

Extroversion

Extroversion is defined as an energetic approach to social situations that makes a person assertive, sociable, and outgoing. On the other hand, introversion is a more reluctant approach to social situations, where an athlete would be more withdrawn and inward looking. In a sport, an extroverted athlete would exhibit these characteristics and extroversion could help them to overcome negative emotions such as fear or anxiety, affecting performance (Eagleton et al., 2007). Outside of sports, higher levels of extroversion are associated with lower levels of affective disorders, specifically social anxiety (Lyon et al., 2021). This relationship may translate to the sports environment, although this would need to be explored further. Researchers surveyed high school athletes and found that extroversion was the distinguishing personality trait between athletes with and without medals, as more extroverted athletes tended to be more successful (Remiszewska et al., 2020). It may be beneficial for coaches to encourage extroverted athletes to engage in a team and foster their extroverted traits, while pushing introverted athletes into team roles or individual sports where they might feel more comfortable.

Extroversion can be a sign of a future successful athlete, as extroverts can often use more adaptive coping strategies and create stronger coach-athlete relationships (Allen et al., 2021). Better coach-athlete relationships can lead to better communication and higher levels of improvement in athletes. For example, one study surveyed athletes from 20 different sports and compared “champions” with other athletes. The defining trait that differentiated the two groups was extroversion, in part due to extroverted athletes’ closer relationships with their coaches (Piepiora, 2021). Furthermore, extroverts have been found to be more willing to communicate with their teammates, improving levels of performance in team sports and levels of cohesion in a team, so extroversion is perhaps even more important in team sports. Indeed, a study surveying elite tennis table athletes found that high scores in extroversion are positively related to an athlete’s more communicative, outgoing personality, which is favorable when forming connections with teammates (Lopez & Santelices, 2012). However, the paper concluded by explaining that while personality can be a factor while recruiting, talent and skill are still more important, which coaches need to keep in mind. Another essential skill for a high-level athlete is their ability to cope with mental pressures and maintain emotional stability, while having a desire to achieve very good results. One study’s findings showed that extroverts are more likely to have these beneficial traits (Buhas & Stance, 2017). Additionally, extroverted athletes who are competing in front of an audience tend to achieve better results than introverted athletes (Buhas & Stance, 2017; Lopez & Santelices, 2012). Audiences are common in high-level sports, contributing to the success of an extroverted athlete at a high level.

While the argument for extroverted athletes appears strong, some studies have shown otherwise. In a study surveying 239 Olympic athletes, results showed that multiple medal winners were far less extroverted than single medal winners, implying that introverts are the more successful athletes (Nideffer et al., 2000). This could be due to the fact that consistent

success in sports requires spending time alone, sacrificing social activities for training, and high levels of focus. Inconsistencies in scientific evidence suggest that further research is needed to clarify the nuances of the relationship between extroversion and sports performance. Yet another position on the presence of extroversion in successful athletes has been explored, as one study conducted with the Eysenck Personality Questionnaire-Revised found that extroversion had no effect on basketball players' performance (Khan & Panchal, 2017). This suggests that while levels of extroversion may be indicative of an athlete's future success, skill and other personality traits, such as conscientiousness, may be far more important.

Conscientiousness

Conscientiousness, an individual's capacity of awareness of their behavior and to remain task- and goal-oriented, is an essential trait for successful athletes. Tedesqui and Young (2018) explored the relationship between conscientiousness and success in both high-level athletes (collegiate, national, and international competitors) and low-level athletes (local, regional and recreational competitors). The authors found that conscientiousness had a greater impact than self-control on an athlete's practice habits and commitment to their long-term goal. This suggests that conscientiousness is a favorable trait, as it helps athletes to maintain discipline. Another study concluded that "conscientiousness may serve as a protective factor against burnout" (Perry et al., 2017). At high levels of sports, particularly for collegiate athletes, burnout is prevalent, especially when coupled with amotivation (Perry et al., 2017). Therefore, conscientiousness should be practiced especially in athletes whose goals are focused on the long-term and require consistent and focused training over a long period, as burnout would hinder achieving these goals. However, more research is needed to explore the relationship between conscientiousness and burnout. In individual sports and combat sports, conscientiousness may be particularly important, as athletes do not have external pressures of accountability from their teammates. For example, high-level karate masters displayed high levels of conscientiousness, having more stable personalities than less experienced karatekas (Bojanić et al., 2019). So while competitors in individual sports have high levels of conscientiousness, team sport athletes tend to have lower levels of conscientiousness, as individual athletes must rely more on their own skill and strength (Bojanić et al., 2019). One study looked at conscientiousness from a different point of view, conducting interviews with high-performance coaches (Tedesqui & Young, 2020). These coaches believed that conscientiousness, along with self-control and grit, are the primary influences on an athlete's quality of practice and skill development. As conscientiousness is a significant part of an athlete's success, coaches should encourage beneficial practice habits to lead to improved rates of development. For example, if an athlete is purposeful with how practice time is spent and engages in training to their fullest potential, they will be far more likely to reach their developmental goals (Ericsson & Harwell, 2019).

Allen et al. (2012) studied conscientiousness from yet another perspective, exploring the relationship between conscientiousness and high-pressure scenarios in sports by measuring a number of hemodynamic parameters — heart rate, ventricular contractility, cardiac output, and total peripheral resistance. While no correlation was found between physical challenge-threat responses (e.g., increased heart rate) and goal-focused dialogue about sport, general

cardiovascular patterns (e.g. heart rate) correlated with personality and coping strategies in athletes (e.g., problem-focused coping). These results reinforce previous findings linking personality and coping functions and using physical reactions to stressful situations to predict future behavior in athletes (Kaiseler et al., 2012). Evidently, conscientiousness is instrumental for an athlete to maintain discipline and work towards their goals, but motivation, whether it be intrinsic or extrinsic, is another factor that drives athletes towards higher levels of athletic achievement.

Intrinsic and Extrinsic Motivation

Athletes are motivated by both intrinsic and extrinsic factors, the former being genuine enjoyment of the sport while the latter refers to pursuing sport to meet or avoid external pressures or seek to gain something from sports such as prestige or awards. However, motivation in athletes cannot be defined as just intrinsic or extrinsic, as both exist in every athlete.

Social factors, such as a coach's behavior or pressure from parents, and an athlete's perception of these social factors have a significant impact on motivation in athletes (Vallerand & Losier, 1999). The aforementioned social factors can be either helpful or detrimental to an athlete, especially when it comes to a coach's interactions with an athlete. While verbal aggression can increase an athlete's extrinsic motivation, it can also damage the cohesion of a team and coach-athlete relationships (Petranichuk, 2019). Both coaches and parents have a significant effect on an athlete's extrinsic motivation, especially if expectations are set, often leading to a loss of motivation and burnout in athletes of all skill levels, including at the collegiate level (Petranichuk, 2019). In student-athletes at a Division I university, the relationship between academic and athletic motivation, and academic performance has been researched. While no distinction between intrinsic and extrinsic motivation was made, this study concluded that levels of academic motivation correlated with academic performance (Gaston-Gayles, 2004), so it is likely that levels of athletic motivation could also correlate with athletic performance in student-athletes, as both require motivation-driven effort. However, success at a high level requires dedication and hardwork, which stems from motivation, as well as discipline. With long hours of practice and many high pressure situations, burnout is common in athletes, especially at elite levels. In a systematic review and meta-analysis of burnout in athletes, self-determination theory (SDT), the theory that all humans require autonomy, competence, and relatedness, was examined as a model to study motivation (Li et al., 2013). Through an extensive literature analysis, this review concluded that an athlete's psychological needs, autonomy, relatedness, and competence, should be considered, especially by coaches, to maintain motivation in athletes. These factors are related to intrinsic motivation and are generally good predictors of reducing burnout, confirming the legitimacy of SDT as a model for motivation in athletes. SDT combines both intrinsic and extrinsic factors into one model, by testing perceived competence, autonomy, and relatedness. One study explored the relationship between perceived coaching behaviors (i.e., how athletes perceived their coaches' approaches) and athlete's intrinsic motivation through the framework of SDT, concluding that coaching behaviors do have an impact on motivation in athletes (Hollembek & Amorose, 2005). Specifically, a democratic approach to coaching, a method where the athlete has a say in their

training, increased athlete's feelings of autonomy. On the other hand, autocratic coaching behavior, a method where training was planned entirely by the coach, had the opposite effect on perceived autonomy in athletes with athletes endorsing lower levels of autonomy, as well as decreased feelings of relatedness with their coach. Additionally, positive feedback from coaches was a significant predictor of both athlete relatedness and perceived competence. However, when used inappropriately (e.g. when the positive feedback is undeserved) or excessively, positive feedback can result in lower levels of perceived competence. Evidently, coaching methods have a significant impact on athletes' motivation.

Self-Efficacy

While motivation tends to be a key quality to consider for athletes, self-efficacy (an individual's perceived capability to complete a task in a specific environment) is also crucial to a successful performance, alluding to the common saying "believe you can and you're halfway there." Using different tasks and measures, researchers have found a significant reciprocal relationship between self-efficacy and performance, stating that "self-efficacy is both a cause and effect of performance" (Moritz et al., 2000). If an athlete believes they can be successful, they will often be more inclined to participate (Kenioua, 2016). However, this self-efficacy is often gained from experience after given the opportunity as performing a task successfully over time is the strongest source of self-efficacy (Kenioua, 2016), but this confidence can also be gained through other techniques, such as imagery. Imagery can be one of the most useful tools for boosting self-efficacy, specifically through visualization techniques utilizing the senses, emotions, and feelings (Volgemute et al., 2023). This self-efficacy-boosting technique has been found to improve athletes's physical performance as well as their psychological skills. One psychological training model consisted of a three-factor structure, including "Imagery for Maximum Performance," "Imagery for Optimization of Skills and Abilities," and "Physical Self-Efficacy" (Volgemute et al., 2023). Such use of imagery can not only help to build self-efficacy, but also aids in reducing state-anxiety, a type of anxiety which varies from moment to moment and fluctuates depending on the situation (Kenioua, 2016). For athletes, this means becoming nervous before and/or during a game, oftentimes affecting performance, as higher levels of anxiety are associated with lower levels of performance. Building self-efficacy can help to reduce state-anxiety. Yet another way to build self-efficacy is through effective coaching. The most successful techniques that coaches have used to improve their athletes' self-efficacy were "instruction-drilling, modeling confidence oneself, positive talk, and emphasizing technique improvements while downplaying outcome" (Gould et al., 1989). Other reassurances from coaches help as well, such as emphasizing that anxious feelings are a sign of readiness, not fear, as well as emphasizing that loss is often rooted in a lack of effort, not a lack of innate ability (Weinberg et al., 1992). As coaches can be one of the most instrumental parts of an athlete's growth and improvement, this is a strong method to build self-efficacy. As levels of self-efficacy grow in an athlete, their motivation likely will too, therefore encouraging the athlete to continue on this positive trajectory of development (Schunk, 1995). Through three techniques — experience, imagery, and effective coaching — athletes can build their self-efficacy to improve their mental game and, in turn, their performance.

Discussion

The four characteristics (extroversion, conscientiousness, intrinsic and extrinsic motivation, and self-efficacy) discussed in this paper are essential to an athlete's success; however, each facet has its own impact on sports psychology. For example, while extroversion can be beneficial in a team-sport athlete as they can better connect to their teammates (Lopez & Santelices, 2012), extroverted athletes are more likely to be distracted by social activities than introverts. Meanwhile, conscientiousness is an overwhelmingly positive trait for athletes to possess as it encourages productive practice habits and protects against burnout (Perry et al., 2017). Another essential characteristic for athletes to have is motivation, and with a balance of both intrinsic and extrinsic motivation stemming from healthy sources, athletes can thrive. Self-efficacy is yet another beneficial trait for athletes as building belief in oneself is crucial to being able to perform while under stress during competition (Moritz et al., 2000).

Limitations of Studies and Future Outlook

By identifying personality factors that have been reviewed in this paper, coaches may be able to more easily and accurately predict who will be an asset to the team. Additionally, athletes who are self-aware of their unique personality makeup may be more likely to succeed. While changing one's personality is implausible, being aware of practice habits and one's approach to sports can help athletes to modify their approach to training, thereby improving performance. It is important to note that while many aspects of personality were discussed in this paper, many other characteristics come into play as an athlete trains and competes. There are numerous other facets of an athlete's personality, and all of these traits are interconnected. Because these personality variables cannot be studied in isolation, it is difficult to identify the exact causes and effects of results in many studies.

Future researchers should consider the effect of relationships between teammates and the homogeneity or heterogeneity of behavioral characteristics within a team. For example, a team of similar-minded motivated athletes would likely perform well due to a cohesive approach to competition and practice. On the other hand, a team of athletes with varied levels of conscientiousness would often be at odds with one another. In contrast, a heterogenous team could be beneficial with athletes of varying levels of extroversion. While extroverted athletes could bolster team bonds and cohesion, introverted athletes would help the team to remain focused on sport over social activities. Homogeneity across a team's self-efficacy would prevent a shift in perspective from high to low self-efficacy. While these hypotheticals consider only the traits discussed in this paper, many more psychological factors could be studied to clarify how variation in the psychological status of a team might influence their athletic performance. More studies are needed to clarify the individual effect of inter-team relationships and increased research is needed in this area to improve athlete performance and coaching strategies.

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