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## Personalities Within Sports Teams

Andrea Bugariu  
asb134@uakron.edu

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Personalities Within Sports Teams

Andrea Bugariu

University of Akron

## Abstract

Personality traits among athletes is a highly researched topic. A primary area of research focuses on studying personality traits in individuals who classify themselves as athletes versus non-athletes and this research shows significant differences between these two groups. Research also shows personality differences between female and male athletes and how these personality differences help each gender cope with injuries in athletics. In addition, research has been completed to support the notion that athletes who participate in different sports contain distinguishing personality traits. These findings parallel the idea that people in different occupations contain different personality traits. Though personality traits amongst athletes and occupations are highly researched topics, there is one area where not much research has been completed. I am interested in researching personality differences between athletes who participate in the same sport but compete in different events. For example, I am interested in observing if athletes who compete in distance events contain personality traits different from athletes who participate in sprint or specialty events. This is an important topic to study because athletes may be attracted to certain sports not based off of physical ability, but on certain personality traits they possess that may make them a good fit for that sport/event. This is analogous to individuals choosing a certain occupation because their personality traits make them a good match for that job. A survey, composed of several personality questionnaires, was distributed to men and women on a track and field team and women on a swimming and diving team. The study did not show any significant results when comparing personality traits amongst athletes in different events but results were significant when correlating personality traits amongst all athletes.

### **Theory Development and Hypothesis**

Research supports the idea that athletes involved in a competitive setting differ in personality traits than individuals who do not participate in sports. Newcombe and Boyle (1995) found that individuals who participate in competitive sporting events are less anxious, neurotic, depressed, and confused; instead, these individuals tend to be more extraverted and vigorous. Morgan (1980) helped support these findings and showed athletes possess greater mental health than non-athletes.

This seems like an odd concept because we hear about the extreme pressure elite athletes face, which in turn impacts their mental health and performance. Reardon, Hainline, Aron, et al. (2019) explain that elite athletes begin to experience negative mental health symptoms including: sleep disorders, depressive episodes, anxiety and related disorders, eating disorders, etc. This is partially due to the fact of increased pressure for performance, increased risk of injury due to the higher level of training, and in some cases sexual or psychological harassment from coaches. Though this is a topic of concern, and could be the case in some elite athletes, Gorczynski, Coyle, and Gibson (2017) reported that elite athletes were just as likely to report depressive symptoms as non-athletes. Though there may seem like a prevalence of mental disorder in elite athletes compared to non-athletes, research shows that this is not necessarily the case. In fact, the physical exertion that comes with elite training has a causal link between physical self-perception and well-being (Lubans, Richards, Killman, et al., 2016). Additionally, there is a link between exercise and physiological mechanisms that increase mental well-being. When athletes work out they release endorphins, which in turn increases mental health and reduces depression and anxiety symptoms (Mikkelsen, Stojanovska, Polenakovic, et al., 2017). This research goes to

show that athletes do in fact experience more positive personality traits compared to non-athletes.

Additionally, Newcombe and Boyle (1995) found gender differences amongst athletes within their work, similar to the findings of Gyomber, Lenart, and Kovacs (2013). They found that males are less anxious, extraverted/neurotic, and more psychotic/tough-minded. Females displayed higher levels of communality, extraversion/sociability, and openness (Gyomber, Lenart, & Kovacs, 2013). They also found that males rate their well-being during exercise, sport performance, and in general higher than females. However, Gyomber, Lenart, & Kovacs (2013) gave no explanation as to why those differences were present. It could be a possibility that these personality differences may be present due to the fact that general research does show gender differences in personalities and these findings are just extended into the athletic world. Though personality differences were found within those studies, Johnson (2007) found no basic differences in the personality traits between men and women. He did find differences in coping strategies between injured female and male athletes. In both genders injuries led to depression and females became more anxious and tense. Females tended to use more emotion-focused coping, which is a common finding in research pertaining to gender differences.

Additionally, personality traits differ between athletes of different sports. A study conducted in Serbia showed significantly different personality traits between wrestlers and basketball players. Goran, Bačanac, and Jakovljević (2011) concluded basketball players have a tendency to display higher levels of abstract thinking, higher levels of verbal skills, a stronger need for dominance, managing and organizing others, and have a greater respect for social rules and teamwork. This was contrasted by wrestlers who prefer more concrete ways of thinking, are less assertive, and less ready for teamwork. It was hypothesized that characteristics differed due

to the fact that basketball is a team sport versus wrestling, an individual sport (Goran, Bačanac, & Jakovljević, 2011). Another study focused on developing soccer players psychological development within the sport. Self-regulation, resilience, commitment, and discipline were all psychological factors that had the greatest impact on soccer players development (Musculus & Lobinger, 2018).

The idea presented here that personality traits might influence athletic choice is somewhat analogous to the work regarding personality and occupational choice. Extensive research has been completed to show the correlation between personality traits and occupational selection. Williamson, Lounsbury, and Han (2013) conclude that engineers have distinguishing personality traits compared to non- engineers. The average conscientiousness score for engineers was lower when compared to non-engineers, though we would believe the opposite to be true; that engineers would score higher on traits related to orderliness and attention to detail. Engineers scored higher on Intrinsic Motivation and tough- mindedness compared to non-engineers. However, engineers scored lower on extraversion, assertiveness, and optimism compared to non- engineers (Williamson, Lounsbury, & Han, 2013).

Additionally, Mounteer (2004) found that out of 100 occupations lawyers experienced the highest rate of depression, which may be due to the fact of the increasing number of lawyers, which in turn increases the competitive nature of the profession, new technology creating a faster workplace, and the complexity of the law. In the case of teachers and teacher effectiveness a meta-analysis was completed to show that conscientiousness (time-management and organizational skills) play a major role in teacher effectiveness; as well as, emotional stability (ability to be calm, secure, and tolerant of stress), extraversion, agreeableness, and openness (Kim, Jörg, & Klassen, 2019). Because prior research shows a correlation between personality

traits and occupational selection, there is reason to assume that personality traits may relate to sport selection.

Personality traits amongst athletes and personality traits amongst different occupational choices have both been widely studied, but there is not much research pertaining to personality traits of athletes within the same sport. Because these studies show differences in personality traits among a broader range of athletes and individuals in occupational selection; one can assume that we might see the same personality differences of athletes within the same sport but different event selection. The present research breaks down athletes within their sport and divides them into subgroups. Take swimming and diving for example. You can categorize this sport into three main events: distance, sprint, and specialty (diving). This study will look to see if there is a trend in personality characteristics amongst athletes in these events, similar to trends in personality characteristics in different occupations and different sports. Below are results I expect to see.

*Hypothesis 1:* All athlete who participate in distance and mid-distance events will show lower levels of openness compared to athletes who participate in sprint and specialty events. A sprinter/specialty athlete is more willing to try new things because small changes to their technique cause a big impact on their performance, even if that is only shaving off a tenth of a second in their time. Distance/mid-distance athletes may have less of an urge to try new techniques right away because of the duration of time it takes them to complete their events.

*Hypothesis 2:* All athlete who participate in distance and mid-distance events will show lower levels of extraversion compared to athletes who participate in sprint and specialty events. Extroverts thrive off of the energy of others. Sprinters and specialty athletes use the energy of their fans to perform their events, whereas distant/middle distant athletes have to rely more so on

intrinsic motivation to complete their events because fans are not as interactive with distant events.

*Hypothesis 3:* All athlete who participate in distance and mid-distance events will show the same levels of conscientiousness compared to athletes who participate in sprint and specialty events. I suspect all athletes to score high on conscientiousness because athletes in general have a high level of self-discipline, regardless of the sport they participate in.

*Hypothesis 4:* All athlete who participate in distance, mid-distance, and specialty events will display higher levels of delayed gratification compared to athletes who participate in sprint events. Sprint athletes receive an award within seconds of beginning their event. On the other hand, distance, mid-distance, and specialty athletes do not receive an award for their efforts for several minutes, in some case hours until beginning their event. These athletes push through longer durations of time before receiving any form of gratification, therefore, they might show higher levels of delayed gratification.

*Hypothesis 5:* All athlete who participate in distance, mid-distance, and specialty events will display higher levels of thought suppression compared to athletes who participate in sprint events. Athletes who participate in sprint events do not have as much time to think during their event; however, distance/mid-distance athletes take several minutes to complete their events. During the course of that time several thoughts may pop into a their mind telling them to quit. Instead they have to push negative thoughts out of their mind to be able to complete their events. Additionally, specialty athletes have multiple tries to accomplish their task and if they fail the first couple of tries I believe negative thoughts may begin to creep into their minds and they also have to have the ability to push those thoughts out.



*Hypothesis 6:* All athlete who participate in distance, mid-distance, and specialty events will display higher levels on the endurance scale compared to athletes who participate in sprint events. As stated above, sprint athletes are done within seconds of beginning their events; therefore, they only have to endure a few seconds of physical/psychological pain, whereas, distance and specialty athletes have to push through physical/ psychological pain for a longer amount of time to complete their task. Hence, they will show higher levels of endurance.

## **Method**

### **Participants**

A total of forty-six men and women's track and field and women's swimming and diving undergraduate student-athletes, at The University of Akron, participated in a Qualtrics survey. The study included 10 men and 36 females. The participants ranged in age from 19-23 years old,  $M = 20.29$ . The participants were encouraged to participate in the study but were not financially compensated.

### **Materials**

An online survey was distributed via the Qualtrics platform at the University of Akron. The survey was composed of the following questionnaires: the 60 question HEXACO test, a 6 question Endurance Scale, a 15 question Thought Suppression Inventory, and the 35 question Delayed Gratification Inventory. The questions were not randomly distributed within the survey, instead each individual questionnaire was grouped with its respective questions.

A sample item from the HEXACO states, "People tell me I'm too critical of others." Participants could answer from 1-5 (1 = Strongly Disagree to 5 = Strongly Agree). Twenty-nine of the items had to be reverse scored manually.

Hamby, Grych, & Banyard (2013) helped establish reliability and validity for the 6 question Endurance Scale by conducting a pilot study. The Endurance Scale was created from the Hamby et al.'s (2013) original 5 question Endurance Scale and one question from Zimbardo and Boyd's (1999) Time Perspective Inventory. A sample item from the Endurance Scale is, "I am a source of strength to my teammates." Participants used a 4-1 scoring scale (4 = Mostly True, 1 = Not True) to answer the questions. None of these items were reverse scored. The pilot study showed validity by establishing strong correlations to measures of Anger Management, Coping, Subjective Well-being, and the Awe Index.

The 15 question Thought Suppression Inventory (TSI) was created to address the limitations of the White Bear Suppression Inventory. The TSI wanted to measure thought suppression attempts along with thought intrusion, and successful thought suppression. Some sample items include: "I have thoughts which I would rather not have" and "I am able to put aside problems and worries." Participants rated their answers 1-5 (1 = Strongly Disagree, 5 = Strongly Agree). None of these items were reverse scored. Rassin (2003) established successful test-retest reliability for thought intrusion and effective thought suppression, however, a lower than desired test- retest reliability was established for thought suppression. Additionally, Rassin (2003) established external validity in two student samples.

The DGI- 35 was produced due to the fact that prior research shows five domains of delayed behavior: food, physical pleasure, social interactions, money, and achievement. The DGI-35 was created to combine all five components into one survey. Though the survey used the 35 question Delayed Gratification Inventory (DGI) when it came to scoring, the DGI-10 was used. Some sample items include: "I would have a hard time sticking with a special, health diet" and "I have always felt like my hard work would pay off in the end." Participants used a scale

from 1-5 (1 = Strongly Agree, 5 = Strongly Disagree) to answer the questions. Five of the 10 items, in the DGI-10, needed to be manually reverse scored. Four studies, that include a large diverse sample, support the DGI-35 internal consistency and test- retest reliability. Additionally, construct validity was supported due correlations with scores on similar self- report measures, including: Big Five personality trait and MMPI-2\_RF (Hoerger, Quirk, & Weed, 2011).

### **Software**

A Qualtrics survey was used to collect the data. The data collected were managed and analyzed with IBM SPSS Statistic software, 26<sup>th</sup> edition.

### **Procedure**

Using the University of Akron Qualtrics survey, the questionnaire was distributed amongst the track and field team and swimming and diving team via their respective group messages. Respondents could complete the survey via a computer or cell-phone.

When participants first entered the survey, they were prompted to read an introductory paragraph asking for their participation in the survey and explaining they may exit at any time. Participants then answered personal questions about themselves and the sports they participate in. Following these questions were items from the HEXACO, followed by items from the Endurance Scale, then items from the Thought Suppression Inventory, and finally items from the Delayed Gratification Inventory.

### **Results**

In hypothesis 1, I anticipated that distance and middle-distance athletes would show lower levels of openness compared to sprint and specialty athletes. An independent samples t-test failed to support a significant difference here,  $t(34) = -.87, p > .05$  (see Table 1).

In hypothesis 2, I anticipated that distance and middle-distance athletes would show lower levels of extraversion compared to sprint and specialty athletes. An independent samples t-test failed to support a significant difference here,  $t(35) = 1.54, p > .05$  (see Table 1).

In hypothesis 3 I expected to find no differences between distance/ middle distance and sprint/ specialty athletes in levels of conscientiousness. An independent samples t-test showed the differences were not significant,  $t(35) = 1.54, p > .05$  (see Table 1).

In hypothesis 4, I anticipated that distance, middle-distance, and specialty athletes would show higher levels of delayed gratification when compared to sprinters. An independent samples t-test failed to support a significant difference here,  $t(33) = .59, p > .05$  (see Table 2).

In hypothesis 5, I anticipated that distance, middle-distance, and specialty athletes would show higher levels of thought suppression when compared to sprinters. An independent samples t-test failed to support a significant difference here,  $t(33) = .05, p > .05$  (see table 2).

In hypothesis 6, I anticipated that distance, middle-distance, and specialty athletes would show higher levels of endurance when compared to sprinters. An independent samples t-test failed to support a significant difference here,  $t(35) = -1.842, p > .05$  (see Table 2).

Following the completion of the statistical analysis of hypothesis 1-6 I examined other possible relationships in the data. I used Pearson correlation coefficient to correlate the factors: openness, extraversion, conscientiousness, delayed gratification, thought suppression, and endurance, instead of comparing groups of athletes. Two significant correlations were found. Conscientiousness and delayed gratification showed a significant positive correlation,  $r(33) = .484, p = .004$ . Additionally, extraversion and endurance showed a significant negative correlation,  $r(35) = -.00, p = -.593$  (see Table 3).

### Discussion

Previous studies looked at a much broader range of individuals when comparing personality traits. For example, it is well known that in general males and females contain certain personality differences; such as, females being more emotional. It could be assumed that taking these findings and implementing them into the sports world would produce similar results. Gyomber, Lenart, & Kovacs (2013) did show that females and males show different personality trait when it comes to competing in sports, such as females being more extroverted and sociable. Different emotion levels are evident when looking at males and females who become injured during athletics. Females tend to focus on more emotion- focused coping compared to the male counterpart (Johnson, 2007). Another major group studied in athletics in athletes verse non-athletes. Newcombe and Boyle (1995) found that these two distinct groups show personality differences when compared to one another. However, the question is why. Athletes experience a better mental state because of chemical reactions that occur in their body when working out. When individuals perform a physical activity, endorphins are released into our body which in turn causes people to feel psychologically better (Mikkelsen, Stojanovska, Polenakovic, et al., 2017).

When studying broad groups of athletes there seem to be significant personality differences. However, as we narrow down the research and begin to look at personality differences amongst different sports the research does show personality differences but it is not as widely explained. Goran, Bačanac, and Jakovljević (2011) contrasted the personality differences between basketball players and wrestlers and explained that these two groups show differences in personality traits but did not give a clear explanation as to why. This concept parallels the idea that people tend to gravitate towards specific jobs based off of their own

personality traits. As mentioned previously engineers tend to be more intrinsically motivated and test lower on extraversion verse teachers who test higher on extraversion (Williamson, Lounsbury, & Han, 2013; Kim, Jörg, & Klassen, 2019).

The two concepts: differing personality traits amongst athletes in different sports and career occupation, are very similar to one another. However, these concepts measure broad groups. The present research aimed at narrowing down these concepts and looking at personality differences on athletes on the same team in different events. It is safe to assume that there could be differences based off of broader previous findings.

The basic finding of the experiment is that comparing groups of athletes based off of personality traits does not show any differences amongst athletes. Instead, differences are present when personality factors are correlated. For example, athletes that scored higher on conscientiousness also scored higher on delayed gratification. This might show that athletes who want to complete their duty/task well and thoroughly are willing to resist an immediate pleasure in order to gain a longer lasting reward. In addition, athletes who scored higher on extraversion also scored lower on the endurance scale, causing a negative correlation between the two traits. Individuals who score higher in extraversion tend to have interests pertaining to the outer world (people and things around them) rather than their own subjective experiences. Individuals who test higher on the psychological endurance scale tend to be a source of strength for others during hardships. This is interesting because I would have assumed that athletes who have a higher interest in others (extraversion) would therefore be a source of strength to others (endurance scale); however, this is not necessarily the case since these two traits are negatively correlated.

There are a couple limitations presented in the study. The first limitation being the limited sample size. A specific group of the population was being tested, therefore, the sample

size was limited from the beginning. Additionally, there were no incentives offered to complete the survey. Though, the track and field team is large, a minimal number of athletes completed the survey, possibly due to the fact that there was no reward. Because of the small sample size, we may have run into a type 2 error. Another limitation occurred after data analysis. When forming hypothesis 6, all athletes who participate in distance, mid-distance, and specialty events will display higher levels on the endurance scale compared to athletes who participate in sprint events, we were using the trait endurance to measure more physical endurance and pushing through physical pain. After data analysis, we reviewed the contents of the survey and realized the scale was measuring psychological endurance: being a source of strength to others and persisting when presented with a challenge. The findings suggest that there is a correlation amongst the personality traits conscientiousness/ delayed gratification and extraversion/psychological endurance, one personality trait does not necessarily influence the other because correlation does not always mean causation.

In the future, studies may show significant differences amongst athletes based off of personality traits if a larger sample size is used. Perhaps a study could include multiple universities swim and dive and track and field programs. Additionally, future studies can provide incentives to athletes for participating in the study. Participation may be easier to obtain in the future if the questionnaires used are also narrowed down. For example, the whole Big Five personality questionnaire does not need to be used; instead, the questions regarding openness, extraversion, and conscientiousness should be included. Narrowing down the questionnaires might help increase the sample size because people may be more likely to fully complete the surveys. Future studies can also narrow down the groupings within the study. The data that

showed significant findings was the correlation between personality traits of all athletes, not between athletes.



Table 1.  
Personality Characteristics

	Distance/Mid		Sprint/Specialty	
	Mean (SD)	n-size	Mean (SD)	n-size
Openness	29.04 (6.25)	21	30.92 (5.79)	13
Extraversion	36.14 (4.11)	21	33.71 (5.16)	14
Conscientiousness	40.09 (2.99)	21	38.07 (4.77)	14

Table 2.  
Personality Characteristics

	Distance/Mid/Specialty		Sprint	
	Mean (SD)	n-size	Mean (SD)	n-size
Delayed Gratification	40.82 (3.79)	23	40.00 (3.39)	10
Thought Suppression	43.39 (4.48)	23	43.30 (4.62)	10
Endurance	8.85 (2.30)	21	10.35 (2.43)	14

Table 3.  
Correlation of Personality Characteristics

	Delayed Grat.	Thought Supp.	Endurance	Extraversion	Openness	Conscientiousness
Delayed Grat.	-	-.004	-.190	.258	.033	.484**
Thought Supp.	-.004	-	.190	-.064	-.036	.301
Endurance	-.190	.190	-	-.593**	.034	-.148
Extraversion	.258	-.064	-.593**	-	.129	.082
Openness	.033	-.036	.034	.129	-	-.076
Conscientiousness	.484**	.301	-.148	.082	-.076	-

\* .05

\* .01

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