

## Kroll and Crenshaw (1970)

### *Multivariate Personality Profile Analysis of Four Athletic Groups.*

**Background and aim:** Kroll and Crenshaw report that early research into personality factors in sport presented few meaningful results. One reason for this is the lack of samples which are truly representative of the sports being investigated. Later research by Kroll et al. found no differences in personality profiles within wrestlers of different skill levels or for karate participants. Further to this, Kroll and colleagues carried out research into personality profiles of participants with differing abilities within different sports. The aim of this study was to build on the research into personalities within a particular sport, by analysing personalities **between** different sports.



**Method:** This piece of research used the **Cattell Sixteen Personality Factor Questionnaire** to gather data in relation to athletes' personality characteristics. 387 athletes took part: 81 were College football players, 141 were gymnasts from 14 different college and university teams, 94 were wrestlers of varying abilities from Olympic standard to below-average College standard, 71 were amateur karate participants from four states across the south-west of the USA. They were all of regional or national level. Additionally, some others were given a 15-item questionnaire; those who scored seven or above on the **lie scale** were removed from the study.

**Results:** Significant differences were shown on the personality profiles of the different groups of athletes. There were six personality traits which distinguished athletes from each other: 1. shy vs. venturesome, 2. group-dependent vs. self-sufficient, 3. trusting vs. suspicious, 4. less intelligent vs. more intelligent, 5. reserved vs. outgoing), 6. affected by feelings vs. emotionally stable.

Based on individuals' responses, they assigned each person to the sport group for which the probability of group membership was highest. For example, of the 81 footballers, 32 were predicted to be in the football group, 18 in wrestling, 9 in karate and 22 in gymnastics. Out of all 387 participants, correct classification was 50.6%. Gymnasts were classified correctly 73.1% of the time, while footballers were at 39.5%, wrestlers 39.4% and karate participants were 33.8%. Further analysis took place whereby comparisons were made for each of the possible pairings of different sports.

Gymnasts scored lowest of all four groups on the relaxed vs. tense factors, while karate participants scored the highest. Gymnasts were also lowest and karate participants highest on the non-conforming vs. conforming factor. Gymnasts were lowest on the sober vs. happy-go-lucky factor, suggesting they are silent and introspective; however,

they were highest on the intelligence factor. For the group-dependent vs. self-sufficient factor, wrestlers and footballers were very significantly different to other groups. This was the biggest discriminator and showed these two groups to be high on group dependence. The wrestlers' results went against the overall trend that players of team sports were higher in group dependence than those playing individually.

**Conclusions:** Kroll and Crenshaw concluded that participants of different sports display different characteristics. Football players and wrestlers exhibit similar personality profiles and characteristics, which differ from gymnasts and karate participants. However, gymnasts and karate participants exhibit different personality traits from each other.

## Evaluation

**Usefulness of research:** It can be suggested from this study that certain personality profiles are linked to success in different sports. With this in mind, sports performance could be improved through promoting these characteristics with sports participants. This is useful for both players and coaches.

**Research method:** As the study used **self-report**, researchers are relying on valid accurate responses to the questionnaire. However, it may be that certain personality traits are viewed more favourably in different sports and as a result participants may give responses that fit into what is expected, leading to **social desirability bias** and **invalid** results. However, the removal of participants who score highly on a lie scale may have removed this issue.

**Free will/determinism:** It is unclear from Kroll and Crenshaw's research as to whether different sports attract different personality types, or whether playing a particular sport causes changes to your personality and to developing particular traits; this is the **cause or effect** argument. This links to the debate as to whether our personalities are unchangeable and pre-determined, or whether certain traits can be developed or enhanced due to environmental factors or free will.

## Exam Style Questions

Using the research by Kroll and Crenshaw (1970), explain personality, its measurement and its relationship to sport. (10)

Explain how the research by Kroll and Crenshaw (1970) could be used to improve sports performance. (10)