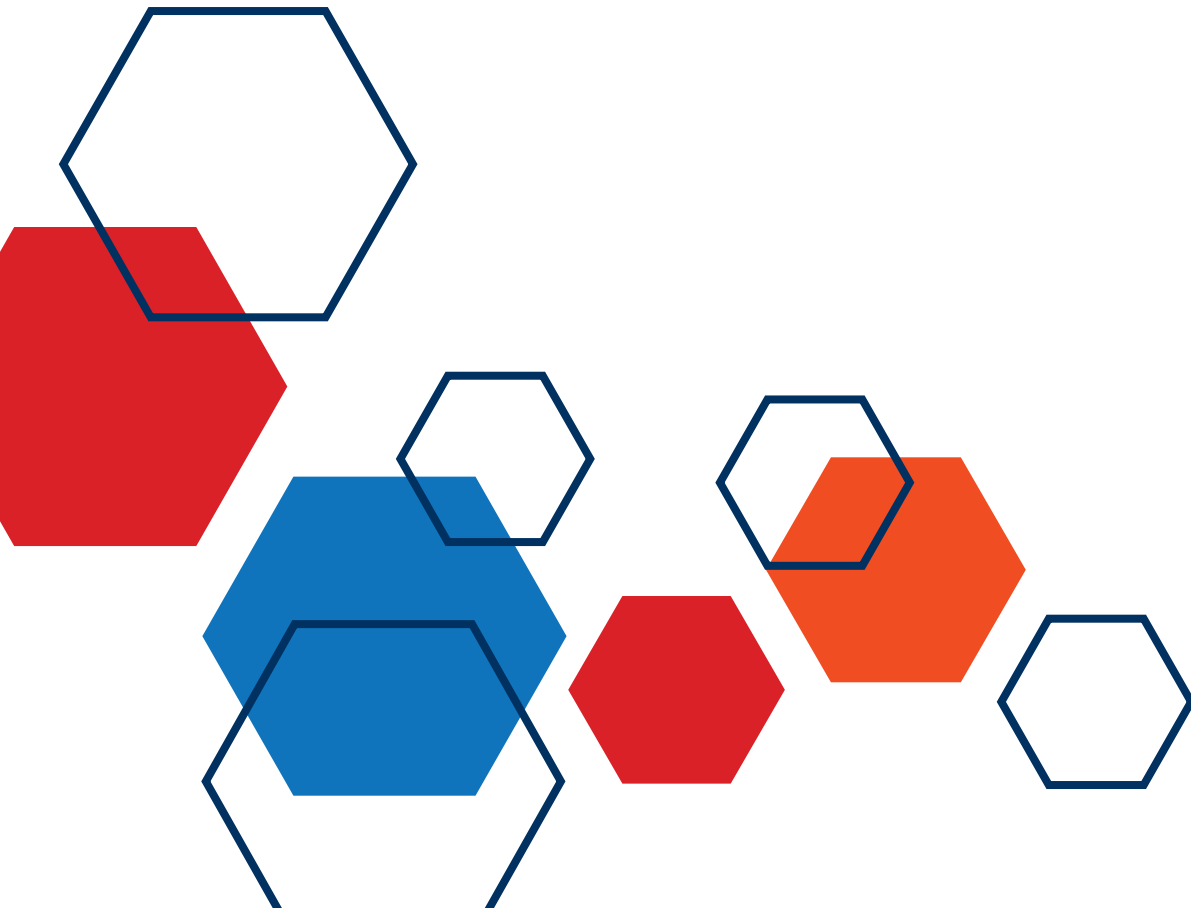# Hogan Assessments and the Profiling of Australian Professional Athletes

Case Study: Comparing the Personality of Elite and Non-Elite Sports Players in Australia

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Overview of Case Study

Research Objectives

The objectives of this case study were to examine the following points of interest:

Do elite sports players differ from non-elite sports players in terms of their personality? How do any observable differences vary by sporting code?

Participants

Participants in this case study included professional sports players in Australia (N = 422) from cricket (n=242), rugby union (n = 113), and rugby league (n = 67).

The number of international level appearances achieved by players was chosen as the primary means of differentiating elite and non-elite players across the three sporting codes. This was done because in each code, representing one's country of birth at an international level marks the highest level of competitive representation. Players were designated as elite if the number of international appearances that they had achieved was at least one standard deviation above the average number of international appearances possessed by the relevant sporting code sample. For example, the average number of international appearances achieved in the cricket sample was 6, and the standard deviation was 21. Hence, cricket players were classified as elite if they possessed at least 27 international appearances. Given the rigour with which elite athletes were classified, the sample sizes of the groups reported in this study (elite vs non-elite) are heavily weighted towards the non-elite. Interpretation of findings for the elite sample need to bear this in mind.

Measures

Hogan Personality Inventory (HPI; Hogan & Hogan, 2007). The HPI measures day-to-day personality characteristics and provides information about an individual's typical preferences and behavioural tendencies.

Hogan Development Survey (HDS; Hogan & Hogan, 2009). The HDS measures personality when under stress and pressure, and assesses an individual's strengths which, when overplayed, can potentially derail performance.

Motives, Values, Preferences Inventory (MVPI; Hogan & Hogan, 2010). The MVPI provides insight into an individual's core values that will motivate and drive their behaviour.

Procedure

Each participant completed the HPI, the HDS and the MVPI as part of an assessment of personality. Hogan Assessment results were summarised and the average percentile scores for each Hogan scale were calculated. To examine whether elite and non-elite sports players differed with respect to their personality. a series of twenty-eight independent sample t-tests were conducted within each sporting code[1]. There were no statistically significant differences observed between elite and non-elite groups. Consequently, this paper will identify and discuss the implications of meaningful non-significant differences that arose between these groups[2].

1 A t-test is a statistical test used to determine whether there is a statistically significant difference between the two groups of players in terms of personality. The significance level needed for differences to reach statistical significance was Bonferroni-adjusted to remain conservative.

2 Meaningful differences were identified as being a difference of at least ten percentile points.

Case Study Findings

Hogan Personality Inventory (HPI) Results

The HPI predicts characteristic day-to-day behaviours and assesses how an individual approaches work and typically interacts with others in the workplace, providing systematic information on personality strengths and potential shortcomings. It is important to recognise that there are both strengths and opportunities associated with scores obtained in each scale range, whether the score for a particular scale lies in the low (0-35th percentile), average (36th - 64th percentile), or high (65th-100th percentile) range. The HPI results for elite and non-elite sports players in Australia are separated by sporting code in the sections below. See the Appendix for scale interpretations.
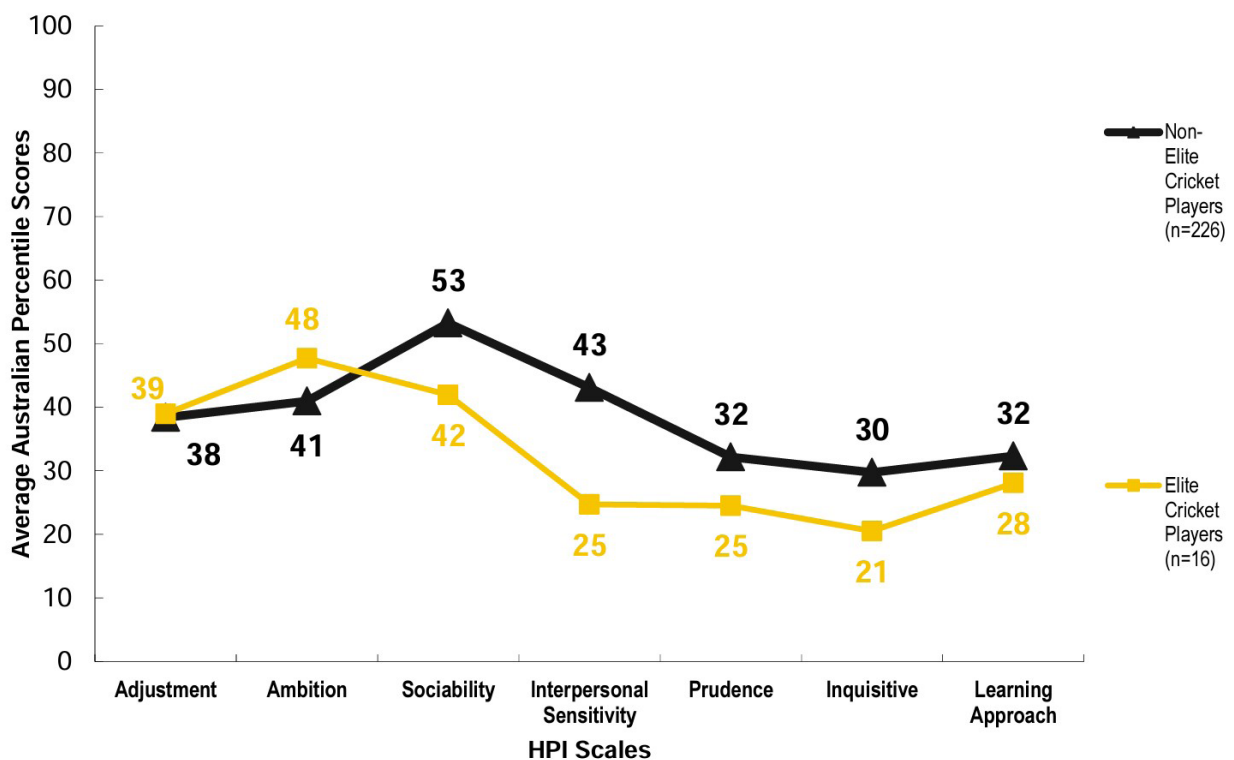
Cricket Sample

Figure 1. HPI Percentile Scores of Professional Cricket Players in Australia (N=242).

Looking at meaningful differences between the groups, it can be seen that elite cricket players scored on average, lower than non-elite cricket players on **Interpersonal Sensitivity** and **Sociability**. For **Interpersonal Sensitivity** this difference spans from the Average to the Low range. This result suggests that elite cricket players may be more likely to be task-oriented and willing to be direct when dealing with others, and this may result in others describing them as tough and lacking diplomacy at times. However, it is also possible that elite cricket players' willingness to be direct and at times less considerate to others, may be a factor in determining their success as defined by international representative appearances.

Elite cricket players also scored on average, lower than non-elite cricket players on Sociability. This result could suggest that elite cricket players may be more likely to prefer working independently, and will likely not need continuous social interaction to keep them interested and satisfied with their career pursuits. This may, however, be seen by others as unapproachable behaviour, and an unwillingness to work with others. These tendencies may be factors in determining their success. However, this interpretation should be treated with caution given that both groups still fall within the Average range.
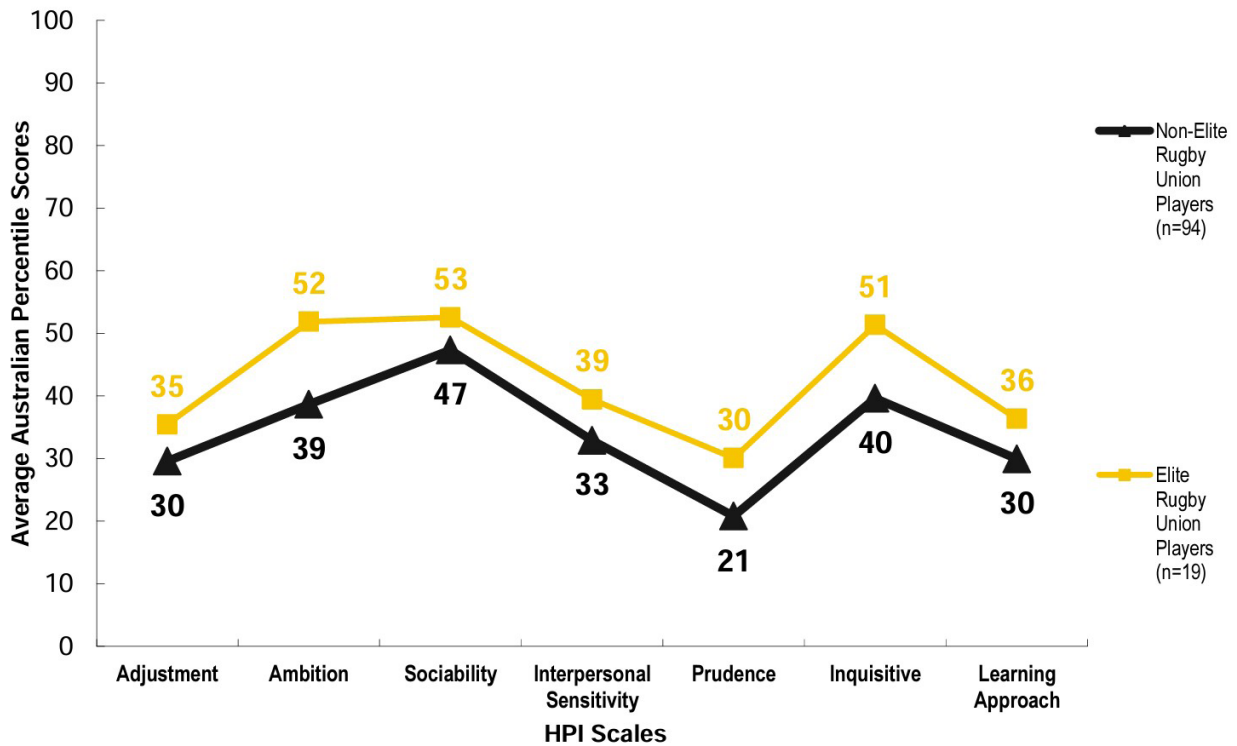
Rugby Union Sample

Figure 2. HPI Percentile Scores of Professional Rugby Union Players in Australia (N = 113).

Elite rugby union players scored on average, higher than non-elite rugby union players on Ambition and Inquisitive. This result suggests that in terms of Ambition, elite rugby union players are more likely to be self-confident, competitive, and leader-like. This may be a factor in determining their success, however it should be noted that their score still falls within the Average range, suggesting that like non-elite rugby union players, they are still able to work well in a team environment. In terms of Inquisitive, this result indicates that elite rugby union players may be more likely to be curious, adventurous, and strategic in their interests. This may also be a factor in determining their success, however it again should be noted that their score falls within the Average range, highlighting that like non-elite rugby union players, they are still able to approach issues in a practical manner.
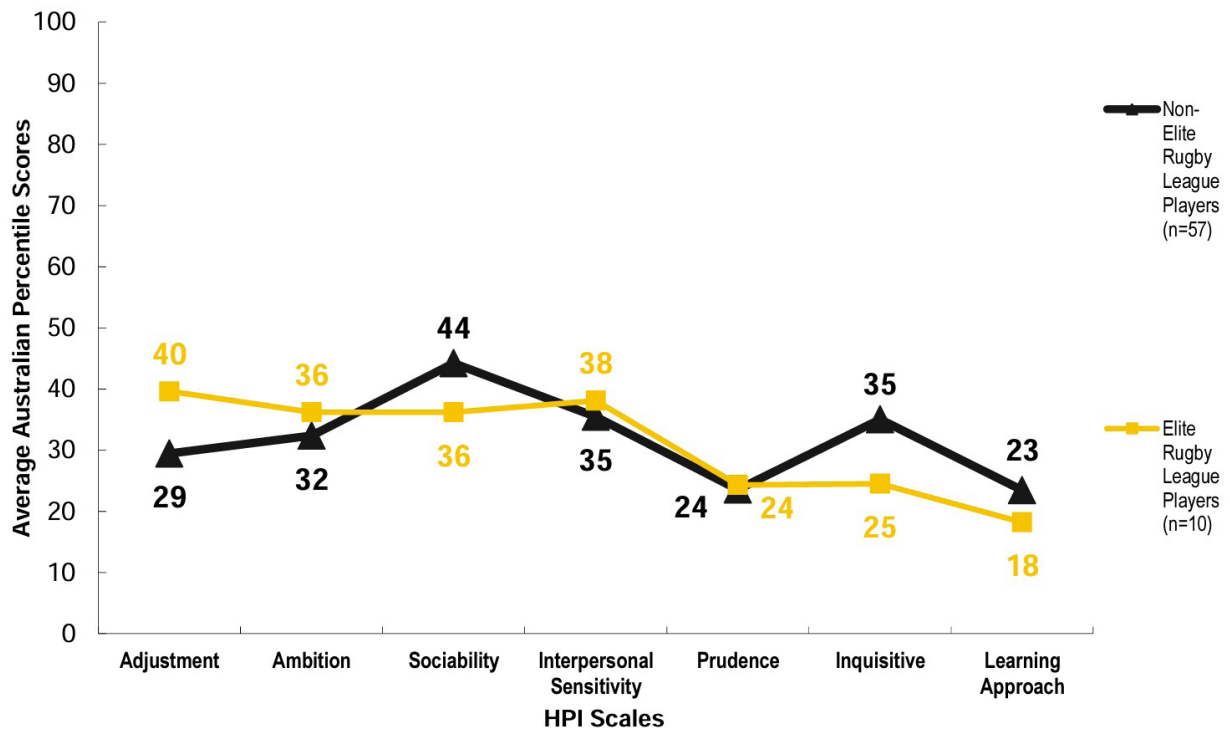
Rugby League Sample

Figure 3. HPI Percentile Scores of Professional Rugby League Players in Australia (N = 67).

Elite rugby league players scored on average, higher than non-elite rugby league players on **Adjustment** and lower than non-elite rugby league players on **Inquisitive**. This result suggests that in terms of **Adjustment**, elite rugby league players may be more likely to handle pressure well, and be resilient and calm when under stressful conditions. However, their average range score suggests that at times they may also become anxious, tense, and self-critical. Non-elite rugby players, however, scored within the Low range, exhibiting behaviours such as openness to feedback but may also appear anxious, stress-prone, self-critical and sensitive to criticism. In terms of **Inquisitive**, this result suggests that elite rugby league players are more likely to be practical and take things at face value than their non-elite peers, however they may also at times be uncomfortable with ambiguity due to their preference for tried and tested methods. This preference lends itself well to the strict rules and guidelines that need to be followed in rugby league and may actually be a factor in determining their success.

Hogan Development Survey (HDS) Results

The HDS explores the characteristic ways in which a person responds to increasing pressure, stress or insecurity, and the way that person's "derailing" behaviours affect others. From this perspective, the HDS predicts behaviours that can lead to career derailment. A derailer is considered to be a person's strength when overplayed and hence becomes a performance risk. A HDS scale is considered a derailer if the percentile score is equal to or greater than the 90th percentile (scores between the 70th and 89th percentile are considered moderate risk scores). The HDS results for elite and non-elite sports players in Australia are separated by sporting code in the sections below. See the Appendix for scale interpretations.
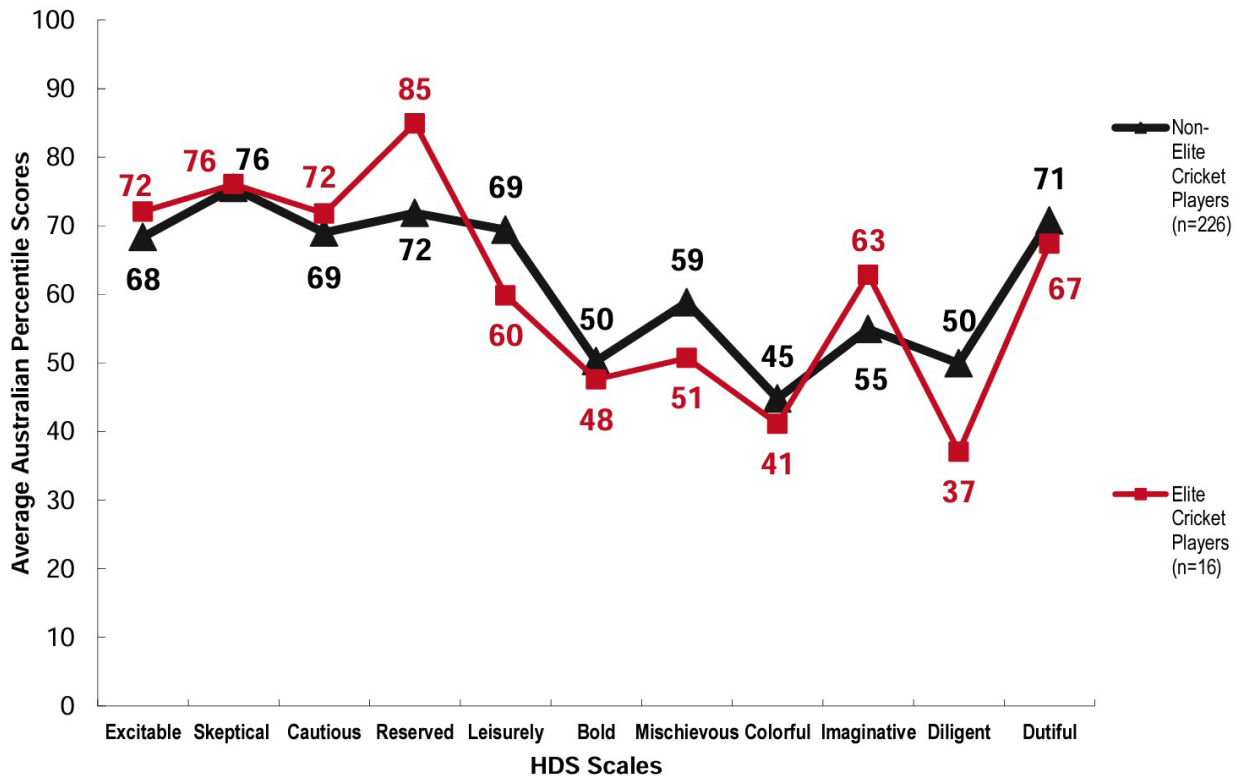
Cricket Sample

Figure 4. HDS Percentile Scores of Professional Cricket Players in Australia (N = 242).

Cricket players do not have any derailers overall. However, there are several scales that represent a Moderate risk to their performance: Excitable, Skeptical, Cautious, Reserved for elite cricket players and Dutiful for non-elite cricket players.

Looking at meaningful differences between the groups, it can be seen that elite cricket players scored on average, higher than non-elite cricket players on Reserved. This result suggests that while elite cricket players may be more likely to be tough, independent, and self-reliant, there is also a greater risk that they may become detached, withdrawn, and uncommunicative when under stress and pressure. However it is important to note that both groups fell within the Moderate risk range. Neither group is likely to derail as a result of their reserved behaviours.

Elite cricket players scored, on average, lower than non-elite cricket players on Diligent, but both scores fell within the Low Risk range. This result suggests that elite cricket players are likely to have lower risk of becoming overly perfectionistic when compared to non-elite cricket players and may be quicker to make decisions when under stress and pressure. While there are no derailers for the cricket players in this sample, appropriate management of their moderate risks may be a factor in determining their ongoing success.
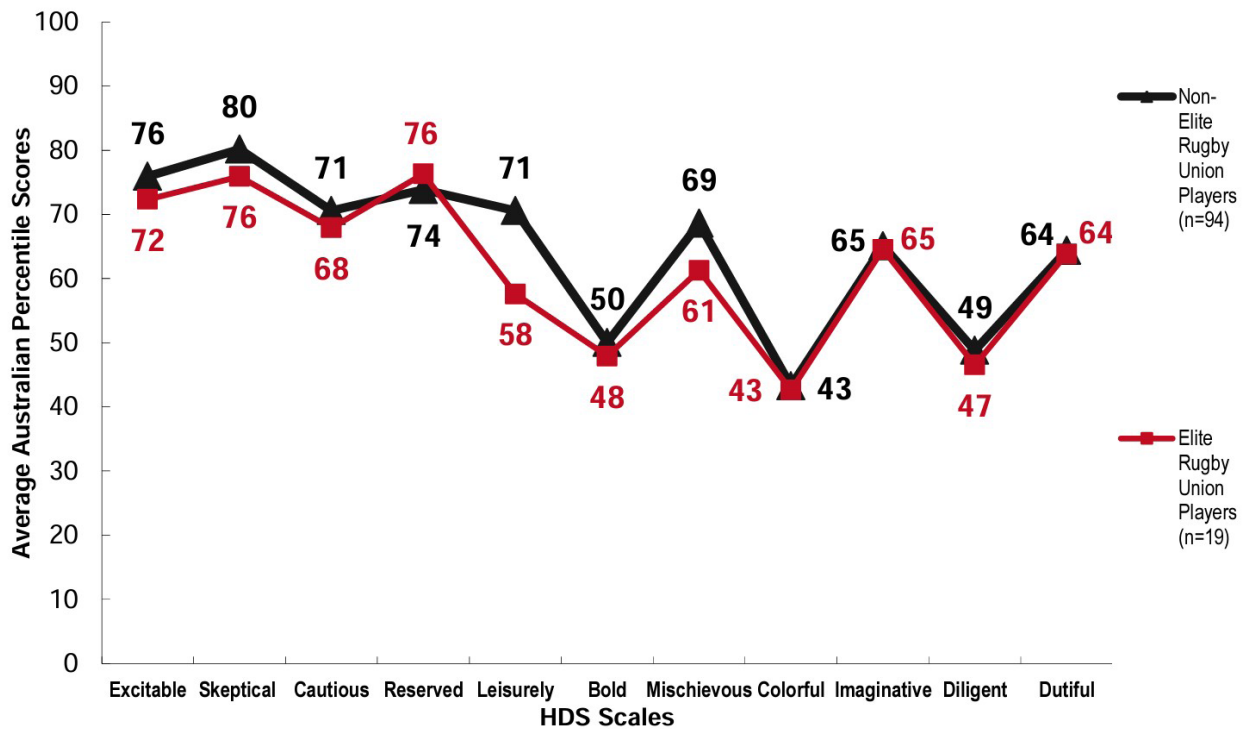
Rugby Union Sample

Figure 5. HDS Percentile Scores of Professional Rugby Union Players in Australia (N = 113).

Rugby union players, elite and non-elite, do not have any derailers. However, there are several scales that represent a Moderate risk to their performance: **Excitable, Skeptical, Reserved** for elite rugby union players and **Excitable, Skeptical, Cautious, Reserved and Leisurely** for non- elite rugby union players.

Looking at meaningful differences between the groups, it can be seen that elite rugby union players scored on average, lower (Low risk) than non-elite rugby union players (Moderate risk) on Leisurely. This result suggests that elite rugby union players are cooperative and self-reliant, and are at lesser risk compared to non-elite rugby union players, of becoming overly independent and resentful to interruptions and feedback when under stress and pressure. The tendency to be cooperative yet self-reliant may play a role in determining the success of elite rugby union players.
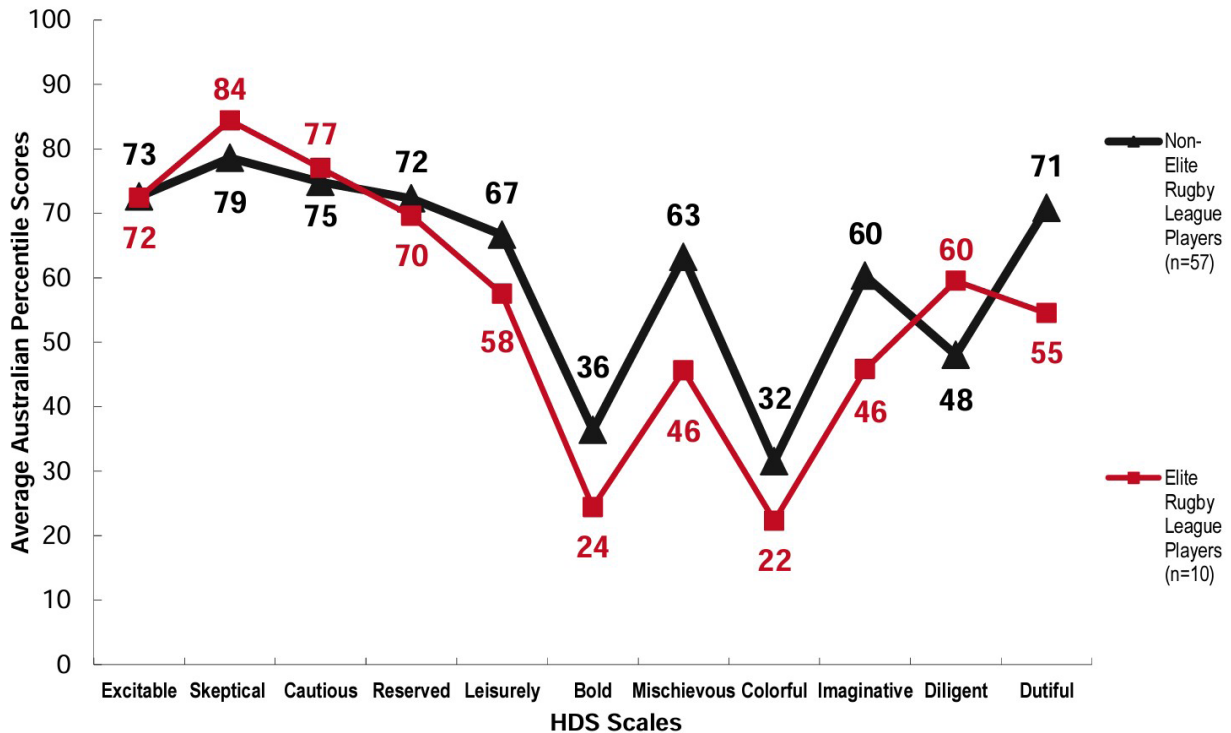
Rugby League Sample

Figure 6. HDS Percentile Scores of Professional Rugby League Players in Australia (N = 67).

Rugby league players do not have any derailers overall. However there are several scales that represent a Moderate risk to their performance: **Excitable, Skeptical, Cautious, Reserved** for both elite and non-elite rugby union players, in addition to **Dutiful** for non-elite players.

Looking at meaningful differences between the groups, it can be seen that elite rugby league players scored on average, lower than non-elite rugby league players on **Bold, Mischievous, Colourful, and Imaginative**. Taken together, these four scales form the 'Moving Against' profile on the HDS that describes individuals who tend to manage their anxiety by manipulating and controlling others when under stress and pressure. This result indicates that when under stress and pressure, elite rugby league players are at less risk of becoming too arrogant or over-bearing (**Bold**) and may be less likely to take ill-advised risk without reviewing potential consequences (**Mischievous**). Additionally, elite rugby league players may be less likely to appear attention-seeking (**Colourful**); and may be less likely to become whimsical and eccentric with perspectives and ideas (**Imaginative**) when compared to non-elite rugby league players.

Elite rugby league players scored on average, higher than non-elite rugby league players on **Diligent**. This result suggests that while elite rugby league players may be more likely to be organised, detail-oriented, and results-driven, there is also a greater risk that they may become overly perfectionistic such that they are slow to make decisions and unable to prioritise things that need to be done when under stress and pressure. However, results for both groups fall within the Low risk category. Elite rugby league players also scored on average, lower than non-elite rugby league players on **Dutiful**. This result suggests that non-elite players may be more reluctant to act independently and make decisions under stress and pressure. Non-elite players however are in the Moderate risk category for this scale so appropriate management of these risks may be a factor in determining their success.

Motives, Values, Preferences Inventory (MVPI) Results

The MVPI explores the core values and goals at the centre of an individual's identity. Values drive one's emphasis on working with others and the type of work environment that they might seek. From this perspective, the MVPI predicts an individual's fit with a career, team and vocation. For the MVPI, scores on or above the 65th percentile are considered true drivers, (this is what the individual will actively look for in their career and life) whilst scores between the 36th and 65th percentile are considered interests (they are seen as somewhat important but not essential to job and life satisfaction). The MVPI results for elite and non-elite sports players in Australia are separated by sporting code in the sections below. See the Appendix for scale interpretations.
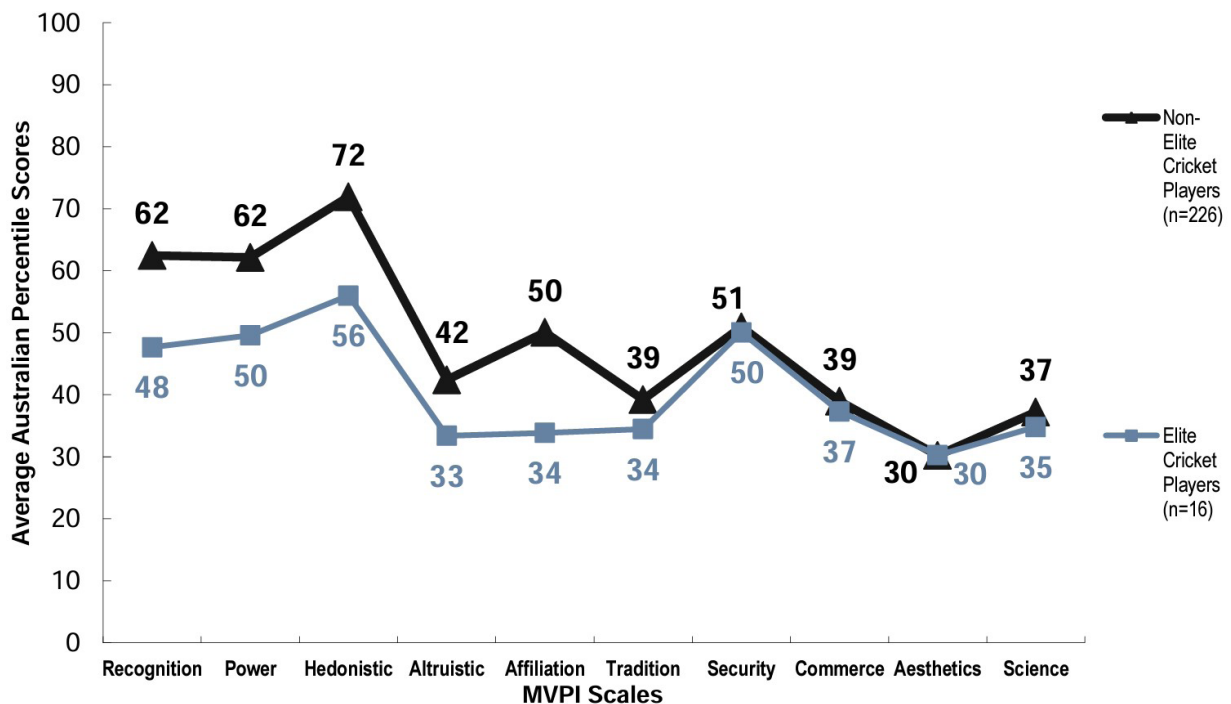
Cricket Sample

Figure 7. MVPI Percentile Scores of Professional Cricket Players in Australia (N = 242).

Only one scale fell within the driver category and this was Hedonism for the non-elite cricket players. In terms of meaningful differences between the groups, non-elite cricket players scored on average, higher than the elite cricket players on Recognition, Power, and Hedonism. Taken together, these three scales form the 'Status' cluster on the MVPI that describes a strong interest in acquiring status by achieving and enjoying success, and being recognised for doing so. These results suggest that non-elite cricket players are more concerned about acquiring status than elite cricket players, and are unlikely to place much value on being modest and sharing recognition for performance (Recognition), getting along with and following others (Power), or operating in a more restrained and self-disciplined fashion (Hedonism).

Non-elite cricket players also scored on average, higher than elite cricket players on Affiliation. This result suggests that non-elite cricket players are more concerned about working with others and building social networks compared to elite cricket players, and are likely to place lesser value on working independently and solving their own problems. These motives, values, and preferences may play a role in determining elite player success.
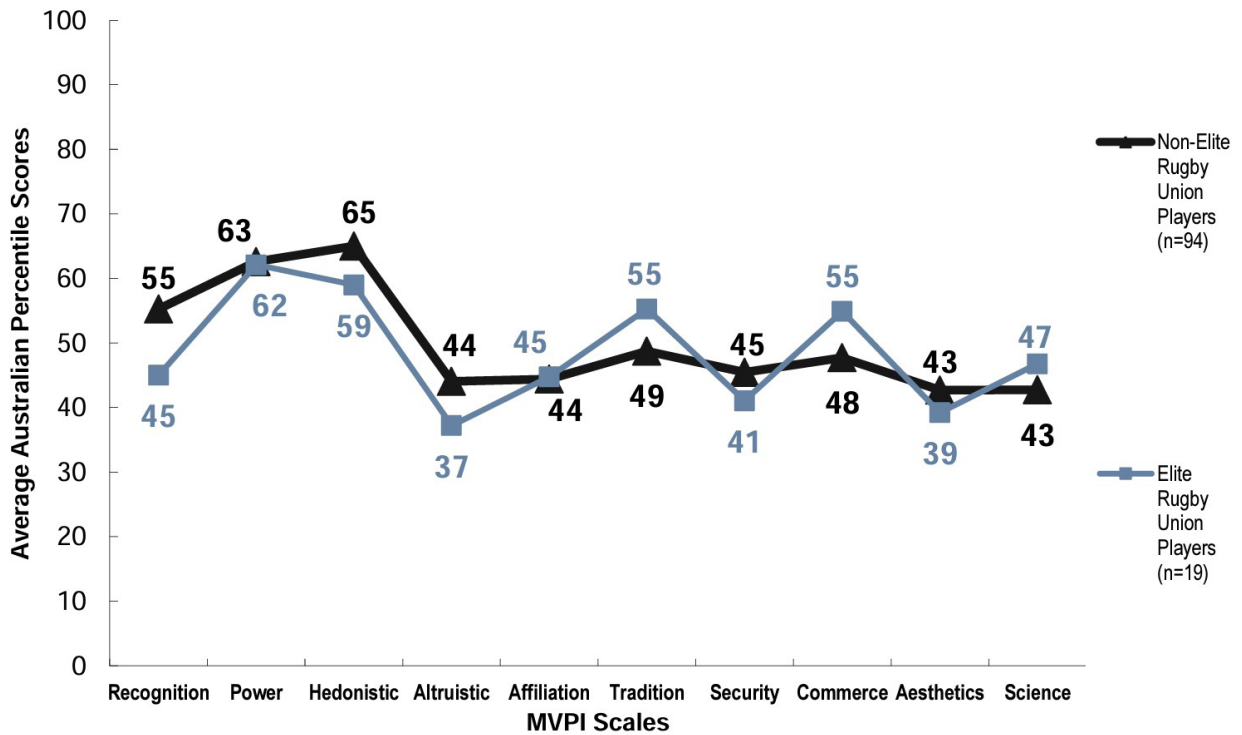
Rugby Union Sample

Figure 8. MVPI Percentile Scores of Professional Rugby Union Players in Australia (N = 113).

Only one scale fell within the driver category and this was Hedonism for the non-elite rugby union players. In terms of meaningful differences between the groups, the non-elite rugby union players scored on average, higher than elite rugby union players on Recognition. This result suggests that non-elite rugby union players may be more concerned about seeking the spotlight and wanting to be noticed for their achievements, and likely to place lesser value on being modest and sharing recognition for performance.
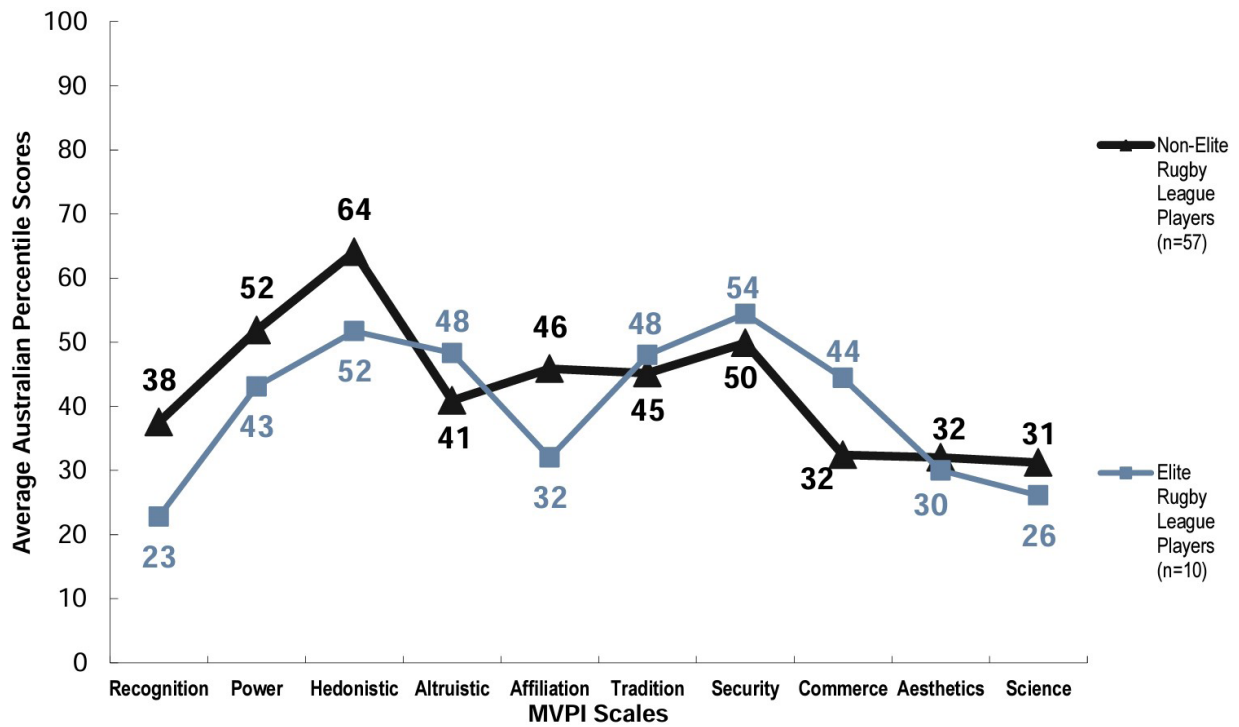
Rugby League Sample

Figure 9. MVPI Percentile Scores of Professional Rugby League Players in Australia (N = 67).

No core drivers were evident in the rugby league sample. In terms of meaningful differences between the groups, non-elite rugby league players scored on average, higher than non-elite rugby league players on **Recognition**. This result suggests that non-elite rugby league players may be more concerned about seeking the spotlight and wanting to be noticed for their achievements, and are less likely to be modest and share recognition for performance. Non- elite rugby league players also scored on average, higher than elite rugby league players on **Hedonism**. This result suggests that non-elite rugby league players may be more concerned about having a lifestyle around entertainment and pleasure-seeking, and are likely to place lesser value on businesslike, professional and self-disciplined environments. Non-elite rugby league players also scored on average, higher than elite rugby league players on **Affiliation**. This result suggests that non-elite rugby league players are more concerned about working with others and building social networks compared to elite cricket players, and are likely to place lesser value on working independently and solving their own problems.

Elite rugby league players also scored on average, higher than non-elite rugby league players on **Commerce**. This result suggests that elite rugby league players are likely to have a greater need for, and place greater value on, financial matters and commercial outcomes such as income and pay benefits. These motives, values, and preferences may play a role in determining their success.

Conclusion

The present case study sought to identify whether elite sports players differed from non-elite sports players in terms of their personality, and whether there were any observable differences between sporting codes. To that end, the personality profiles of elite and non-elite Australian sports players were compared across the three sporting codes of Cricket, Rugby Union and Rugby League.

This analysis yielded a number of meaningful differences in the personality profiles of elite sports players when compared to non-elite sports players, and detailed the manifestation of these differences across sporting codes. It needs to be acknowledged however, that these differences, while meaningful, were not statistically significant and that the elite group sample size was limited by the nature of elite sport.

These case studies do however provide some insight into the personality dimensions that differentiate elite from non-elite sports players in Australia. These findings may also assist non- elite athletes in their pursuit of becoming elite athletes. The appropriate leveraging of the observed day-to-day tendencies, the effective management of the detailed performance risks, and the key influence of personal drivers may all be factors which determine the success of elite sports players in Australia.

References

Hogan, R., & Hogan, J. (2007). *Hogan Personality Inventory Manual*. Tulsa, OK: Hogan Assessment Systems.

Hogan, R., & Hogan, J. (2009). *Hogan Development Survey Manual*. Tulsa, OK: Hogan Assessment Systems.

Hogan, R., & Hogan, J. (2010). *Motives, Values, Preferences Inventory Manual*. Tulsa, OK: Hogan Assessment Systems.

Appendix

Hogan Assessments Scale Interpretations

HPI Scales	Scale Interpretation
Adjustment	Concerns composure, optimism, and stable moods.
Ambition	Concerns self-confidence, leadership, and competitiveness.
Sociability	Concerns seeming talkative, social bold, and entertaining.
Interpersonal Sensitivity	Concerns being agreeable, considerate, and skilled at maintaining relationships.
Prudence	Concerns being conscientious, dependable, and rule-abiding.
Inquisitive	Concerns being curious, imaginative, and easily bored.
Learning Approach	Concerns enjoying formal education and actively staying up-to-date on business and technical matters.
HDS Scales	**Scale Interpretation**
Excitable	Concerns being overly enthusiastic about people/projects, and then becoming disappointed with them.
Sceptical	Concerns socially insightful, but cynical and overly sensitive to criticism.
Cautious	Concerns being overly worried about public criticism.
Reserved	Concerns lacking interest in or awareness of the feeling of others.
Leisurely	Concerns being charming, but independent, stubborn and hard to coach.
Bold	Concerns being assertive and competitive, but demanding, over-confident and feedback resistant.
Mischievous	Concerns being charming, risk-taking, and excitement seeking.
Colourful	Concerns being dramatic, engaging, and attention-seeking.
Imaginative	Concerns thinking and acting in interesting, unusual, and even eccentric ways.
Diligent	Concerns being conscientious, perfectionistic, and hard to please.
Dutiful	Concerns being eager to please and reluctant to act independent.
MVPI Scales	**Scale Interpretation**
Recognition	Desire to be known, seen, visible, and famous.
Power	Desire for challenge, competition, achievement and success.
Hedonism	Desire for fun, excitement, variety and pleasure.
Altruistic	Desire to serve others, to improve society, and to help the less fortunate.

Affiliation	Need for frequent and varied social contact.
Tradition	Concerns for morality, family values, and devotion to duty.
Security	Need for structure, order and predictability.
Commerce	Interest in earning money, realising profiles, and finding business opportunities.
Aesthetics	Interest in the look, feel, sound, and design of products and artistic work.
Science	Interest in troubleshooting, investigation, research and problem solving.

Sports

Cricket. Cricket is a non-contact team sport involving teams of 11 players per side. Each side takes turns at attempting to score runs while batting, while the other team fields and bowls with the intention of taking *wickets*. Cricket is one of the most popular sports played in Australia and globally with several international series played each year.

Rugby Union. Rugby is a contact team sport played by teams of 15 players aiming to outscore their opponents by scoring tries, conversion kicks, penalty kicks or drop goals. Rugby union is predominantly played in Africa, Asia, Europe and Oceania.

Rugby League. Rugby league is a contact team sport played by teams of 13 players aiming to outscore the opposition team. Rugby league shares similarities and origins with rugby union but changes to the rules of rugby league result in them now being played as distinct sports. Rugby league is played internationally, predominantly in Australia, England, New Zealand, France, Tonga and Papua New Guinea, where it is a national sport.

About Peter Berry Consultancy (PBC)

PBC is a multidisciplinary global consulting firm with over 30 years' experience in the delivery of solutions aimed at maximising the potential of individuals, teams, leaders and organisations. We undertake research to support our evidence-based solutions and have a network of partners and distributors globally.

PBC is the Australian and New Zealand distributor of Hogan Assessments and the authors of a range of diagnostics including the Hogan 360 suite, Agile suite, High Performing Team Assessment (HPTA), and co-authored the Hogan Safety Climate Survey.

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