Comparing and Contrasting the Personality Traits of United States Air Force Pararescue Personnel with Elite and Olympic-Level Track and Field Athletes

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Disclosure Information

- We have no financial relationships to disclose.

- We will not discuss off-label use and/or investigational use in my presentation.

- The views expressed are those of the authors and do not necessarily reflect the official policy or position of the Air Force, the Department of Defense, or the U.S. Government.

Overview

- **Background**

- **Study Rationale**

- **Objectives**

- **Methods**

- **Results**

- **Future Research**

Background – What does it take to be a PJ?

- U.S. Air Force pararescue personnel (PJ) perform extreme feats in high-risk, high-demand environments and are critical to the extraction of U.S. and allied forces.

- 2 years of extreme training to be fully qualified

- PJ training courses have an 86-90% attrition rate and those who complete training are considered to be among an elite group of special warfare operators.

- USAFSAM Aeromedical Operational Psychology Approach focuses on the combination of physical traits, intelligence and personality traits that it takes to make it in the PJ career field.

Study Rationale

- Elite military personnel are often compared to elite athletes

- Both career fields require a high level of physicality, resilience, and mental toughness for success

- No study has empirically tested the assumption of these similarities

- The Olympic athlete represents a great subject panel to gather additional insight into the characteristics of elite performers and may help design future psychological training that may help optimize interventions

Soldiers Are the Army's Professional Athletes

A conversation with Olympic runner, actress, filmmaker, and writer Alexi Pappas

Chief of Staff of the Army Gen. James McConville, has said that our Soldiers are like professional athletes and the Army wants to give them all the capability they need to stay on the field and play their position. Thus, just like elite athletes, Soldiers need to take care of themselves both physically and mentally to perform at their peak.

"There truly is so much overlap between the world of Olympic athletics and the military. We are all elite athletes whose mission it is to push ourselves beyond our limits to achieve extraordinary goals," said Alexi Pappas, the Olympic runner, actress, filmmaker and writer, when she joined a world-wide audience for the Army Resilience Directorate's monthly webinar. Pappas, who recently published her memoir, "Bravey," shared a message of resilience and the significance of treating the brain like a body part.

Objectives

1. Identify personality traits that distinguish PJs from the normative population

2. Compare and contrast the social, emotional, and behavioral functioning of PJs and elite athletes

3. Design future programming aimed at training the unique psychological characteristics required of PJs

Methods – Samples

Pararescue Personnel

- 160 male PJs, average age of 21.7 years

- Testing was administered at the beginning of the PJ training pipeline to all PJ candidates

- Data collection started in 2014 and concluded in 2017

Elite and Olympic Athletes

- 73 male elite athletes, average age of 28 years

- Collected data remotely and traveled to elite meets, including the Olympic trials, to test athletes

- Data collection started Dec 2021 and finished Aug 2022

Medal	World Championships	Olympic Games	World Indoor Championships
Gold	11	4	4
Silver	5	9	2
Bronze	4	3	1

Methods – Personality Measure

- Personality testing included the administration of a commercially based instrument

- The NEO-PI-3 consists of 240 items and takes about 30 minutes to complete
  - Each item has a 5-point response scale, with responses ranging from strongly disagree to strongly agree

- Measures five major personality domains: *Neuroticism, Extraversion, Openness, Agreeableness,* and *Conscientiousness* and 30 different facets

- The NEO-PI-3 is considered the gold standard in personality assessment and meets professional psychometric reliability and validity qualities and standards for use as a non-cognitive assessment instrument

- The reliability coefficients for the 30 facets range from 0.56-0.81

Measure: NEO-PI-3			
Factors	**Facets**		
Neuroticism	Anxiety	Moodiness	Self-Indulgence
	Frustration	Social Concerns	Sensitivity to Stress
Extraversion	Warmth	Assertiveness	Excitement Seeking
	Outgoingness	Activity Level	Positive Emotions
Openness	Imagination	Depth of Emotions	Intellectual Curiosity
	Aesthetics	Willingness to Experiment	Tolerance for Diversity
Agreeableness	Trust in Others	Consideration for Others	Modesty
	Candor	Compliance	Sympathy
Conscientiousness	Sense of Competence	Sense of Responsibility	Self-Discipline
	Sense of Orderliness	Need to Achieve	Deliberateness

Objective 1 - Identify personality traits that distinguish PJs from the normative population
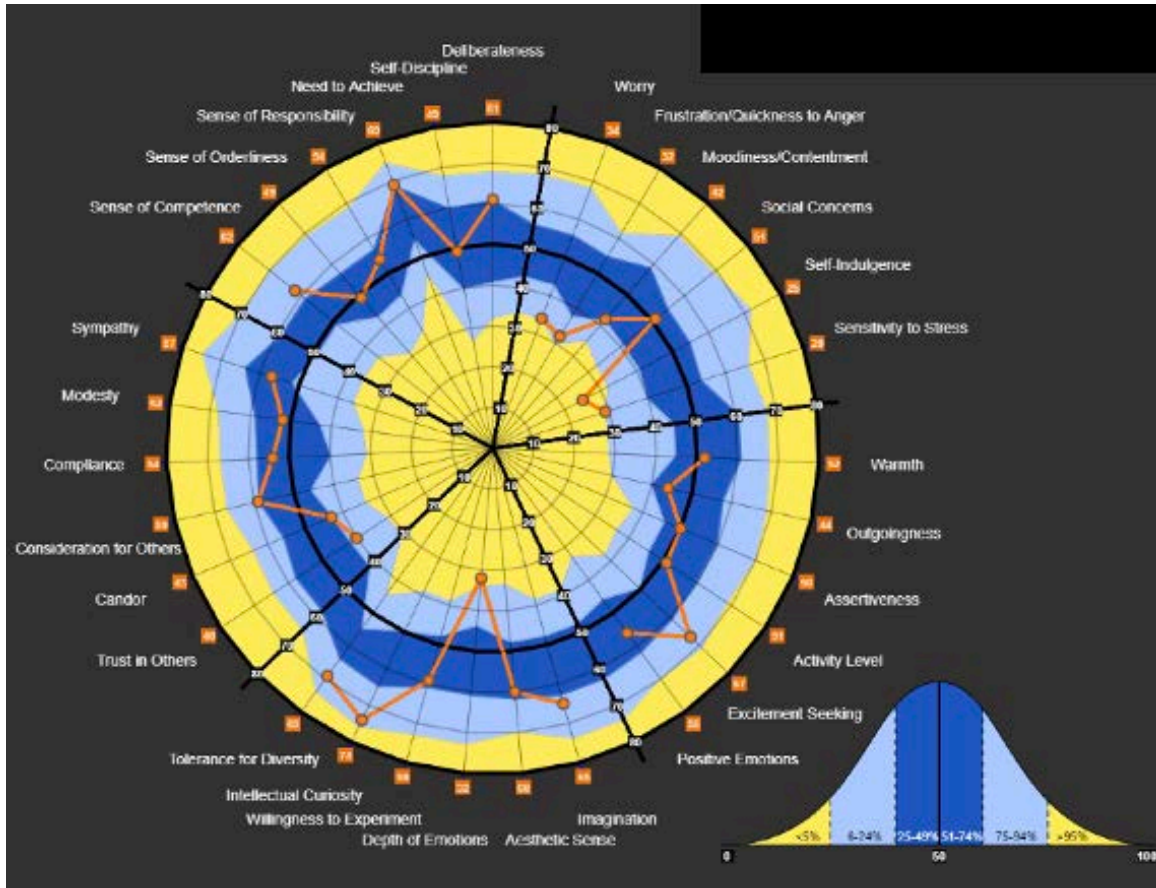

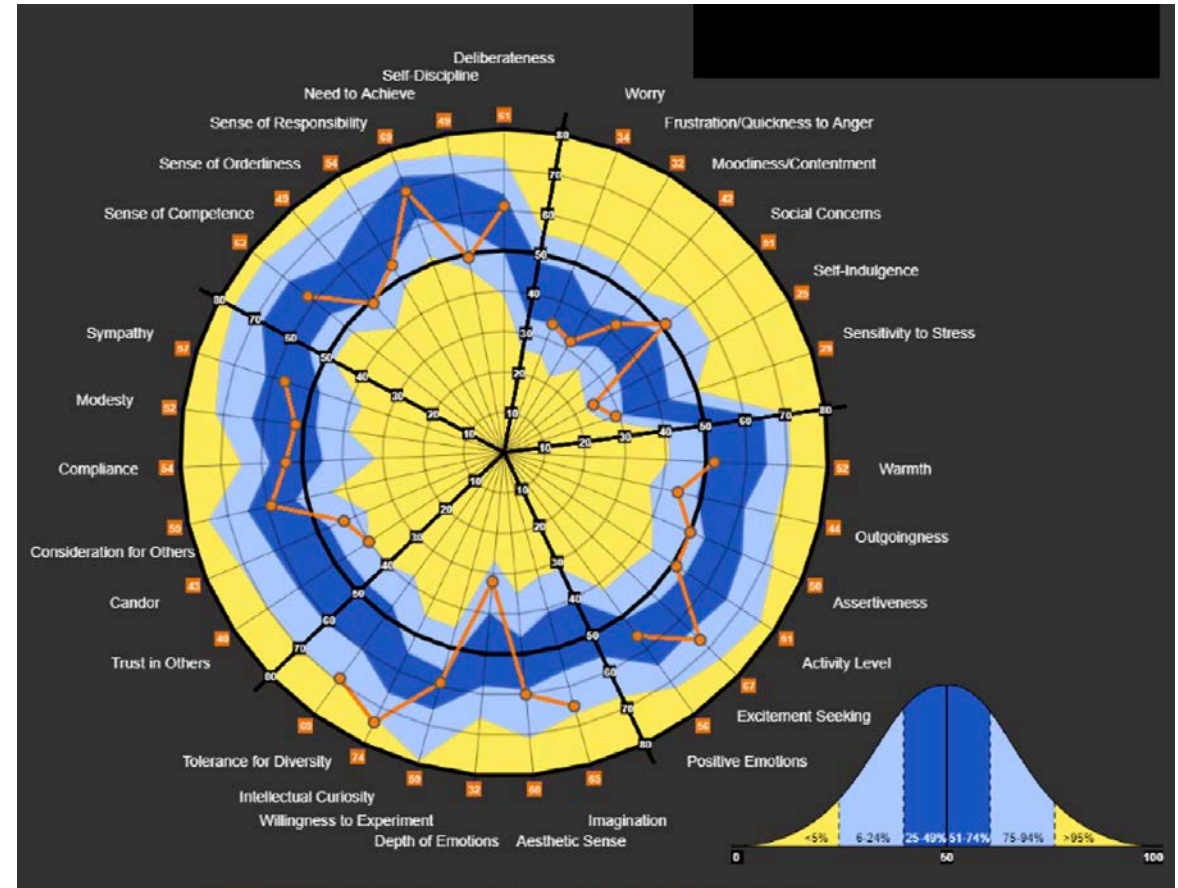Normative Population
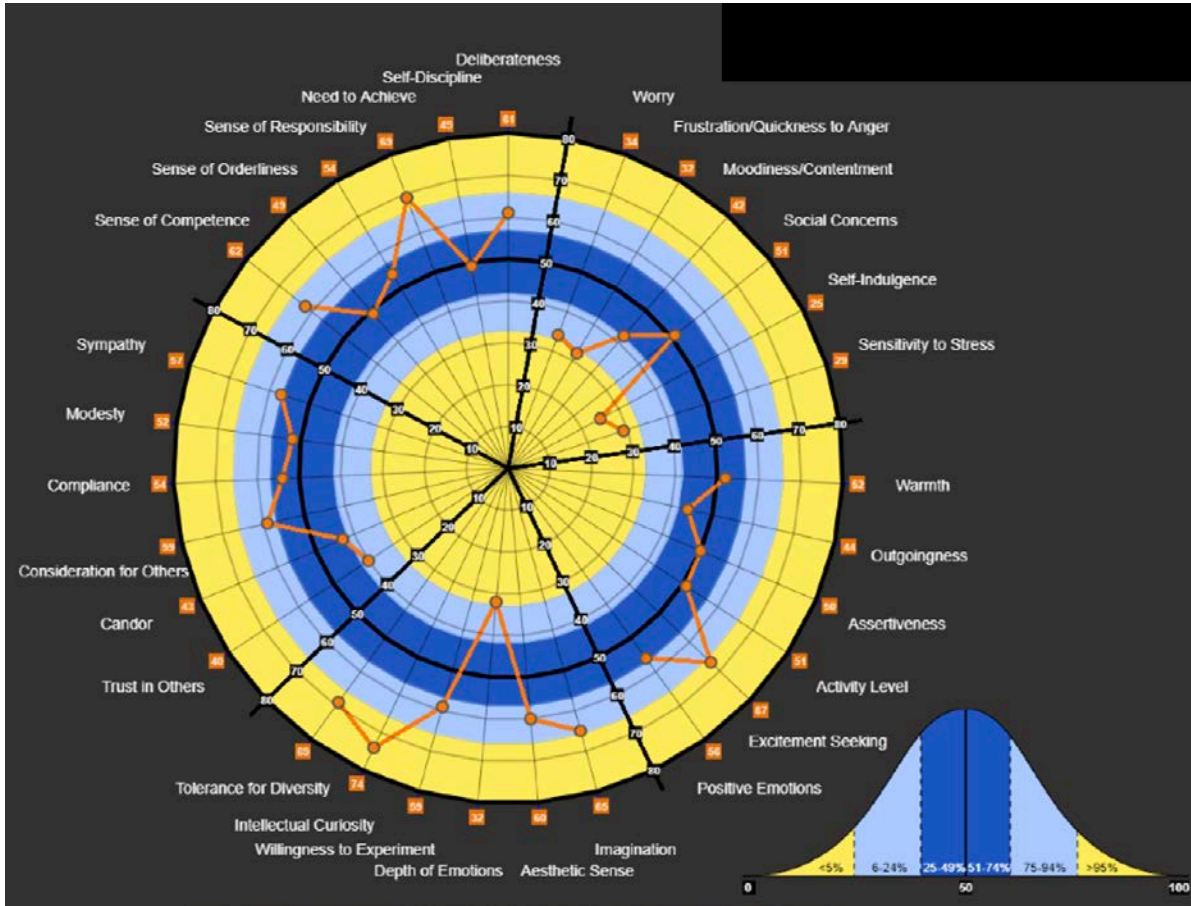
PJ Sample
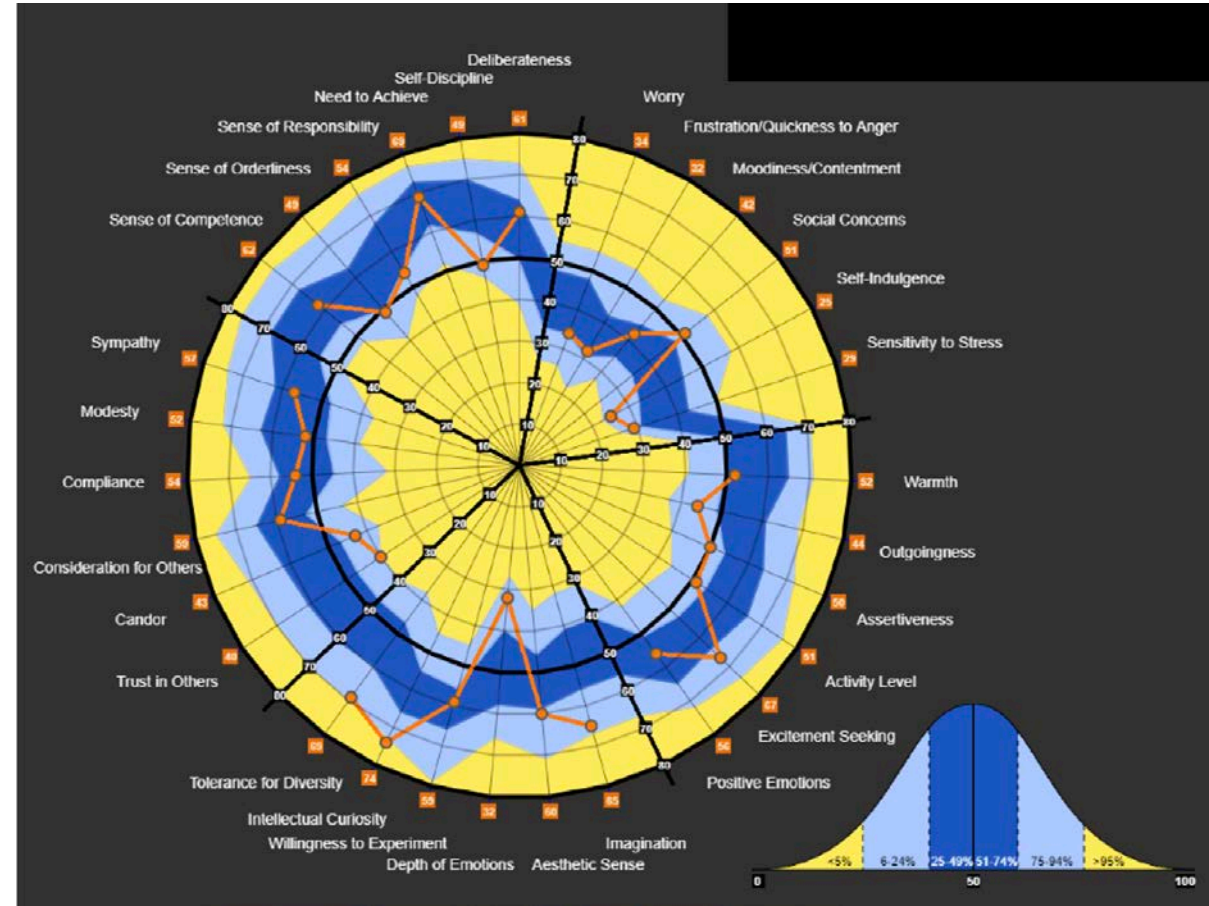
Objective 2 – Compare and contrast the social, emotional, and behavior functioning of PJs and elite athletes

Elite Athlete Sample

PJ Sample

Results – Neuroticism

- What are the distinct, yet functional differences between PJs and Elite Athletes on Neuroticism?

- PJs as a group were different across multiple variables, with the largest differences being:
  - Less neurotic, anxious, sad, impulsive & emotionally vulnerable

Domain/Facet	Descriptive Statistic		Comparative Test		
	PJ Mean (SD)	Athlete Mean (SD)	t-test	p-value	Effect Size
N: Neuroticism	52.08 (18.06)	73.16 (20.92)	-7.44	0.00	1.11
N1: Anxiety	10.16 (4.54)	13.86 (5.18)	-5.26	0.00	0.78
N2: Angry Hostility	8.45 (4.48)	11.32 (4.81)	-4.42	0.00	0.62
N3: Depression	8.56 (3.94)	12.86 (5.11)	-6.39	0.00	0.99
N4: Self-Consciousness	8.86 (4.24)	11.58 (5.12)	-3.95	0.00	0.59
N5: Impulsiveness	11.05 (4.07)	14.82 (5.08)	-5.57	0.00	0.85
N6: Vulnerability	5.01 (3.08)	8.73 (4.17)	-6.80	0.00	1.07

Results (continued) – Extraversion

- What are the distinct, yet functional differences between PJs and Elite Athletes on Extraversion?

- PJs as a group were different across multiple variables, with the largest differences being:
  - Higher extraversion, activity, and excitement-seeking

Domain/Facet	Descriptive Statistic		Comparative Test		
	PJ Mean (SD)	Athlete Mean (SD)	t-test	p-value	Effect Size
E: Extraversion	132.34 (16.74)	115.69 (23.59)	5.44	0.00	0.87
E1: Warmth	24.46 (4.21)	22.16 (5.42)	3.20	0.00	0.50
E2: Gregariousness	19.16 (4.85)	15.81 (6.06)	4.16	0.00	0.64
E3: Assertiveness	20.88 (3.93)	18.89 (4.98)	3.01	0.00	0.46
E4: Activity	21.39 (3.45)	18.14 (4.64)	5.36	0.00	0.84
E5: Excitement-Seeking	23.73 (3.69)	19.78 (4.70)	6.33	0.00	0.98
E6: Positive Emotions	22.72 (4.46)	20.90 (5.66)	2.42	0.02	0.37

Results (continued) – Conscientiousness

- What are the distinct, yet functional differences between PJs and Elite Athletes on Conscientiousness?

- PJs as a group were different across multiple variables, with the largest differences being:
  - Higher conscientiousness, dutifulness, and self-discipline

Domain/Facet	Descriptive Statistic		Comparative Test		
	PJ Mean (SD)	Athlete Mean (SD)	t-test	p-value	Effect Size
C: Conscientiousness	145.56 (17.62)	127.49 (21.95)	6.18	0.00	0.95
C1: Competence	25.15 (3.36)	23.19 (4.00)	3.53	0.00	0.55
C2: Order	21.60 (4.58)	19.43 (5.21)	3.06	0.00	0.45
C3: Dutifulness	25.93 (3.28)	21.78 (4.11)	7.59	0.00	1.16
C4: Achievement-Striving	27.51 (3.18)	24.96 (4.17)	4.64	0.00	0.72
C5: Self-Discipline	25.93 (3.80)	20.29 (5.57)	7.86	0.00	1.27
C6: Deliberation	19.45 (4.42)	17.85 (5.10)	2.31	0.02	0.34

Objective 3: Design future programming aimed at training the unique psychological characteristics required of PJs

- The perception of similarities between the two groups, has encouraged programming for military personnel designed around sport psychology interventions used with elite athletes.

- PJs can gain valuable psychological skills from sport psychology interventions, but professionals must highlight the increased emotional stability and work ethic and teamwork that PJs must possess in comparison to elite athletes.

- The PJ career field has different rigors with less room for error because of the cost of human life.

- When using sport psychology skills and examples from elite athletes, professionals working with the military should consider the unique differences in job duties, career demands, and performance conditions of the two groups in order to maximize the effectiveness of psychological skills training.

Future Research

- There are currently no female SWO

- Exploring the psychological predictors of performance of elite females, which remain underrepresented in SWO

- Previous data on AFSOC female aircrew and this research on female Olympic athletes can shed light on the psychological similarities and differences of elite female performers and contribute to the future recruitment strategies for females who excel in high-pressure, high-intensity environments

Questions?