ANTHROPOMETRIC AND COMBINE PERFORMANCE IMPACT ON DRAFT STATUS: 2022 NATIONAL FOOTBALL LEAGUE DRAFT

G.A. Ryan[1], C.P. Bonilla[2], & R.L. Herron[3]

[1]Piedmont University, [2]Liberty University, [3]University of Montevallo

Introduction

- The National Football League (NFL) conducts an annual Combine to assess anthropometric and athletic ability for hundreds of collegiate players as part of the NFL Draft process.
- General managers, coaches, and sport scientists use the information gathered during the Combine, in part, to make decisions on which players to draft onto their teams.
- While previous research has suggested that the Combine is minimally successful in determining player ability, the NFL continues to promote the Combine and players continue to subject themselves to testing in hopes of being drafted.

Purpose:

- To determine if there was a difference between drafted and undrafted players in anthropometric and performance results among the athletes invited to the 2022 NFL Combine.

Methods

- Player performance from 315 (Drafted 218; Undrafted 97) athletes from the 2022 NFL Combine were analyzed from open-source databases.
- **Anthropometric**
  - Body Mass Index (BMI)
  - Hand Size (HS)
  - Arm Length (AL)
- **Performance**
  - 40-Yard Sprint (40YS)
  - Vertical Jump (VJ)
  - Broad Jump (BJ)
  - 3-Cone Drill (3CD)
  - 20-Yard Shuttle (20SH)

Statistical Analyses:

- Independent t-tests were run on each test to explore potential differences ($\alpha \leq 0.05$) in drafted versus undrafted players.
- Potential differences were also analyzed among each position.
  - Offensive Line; Defensive Back; Defensive Line; Running Back; Linebacker; Quarterback; Tight End; Wide Receiver.

Results

All Players	BMI (kg/m²)	HS (in)	AL (in)	40YS (s)	VJ (in)	BJ (in)	3CD (s)	20SH (s)
Drafted	31.04 ± 4.76	9.67 ± 0.59	32.49 ± 1.53	4.70 ± 0.31	32.74 ± 4.65	118.15 ± 8.94	7.37 ± 0.44	4.53 ± 0.26
Undrafted	29.83 ± 4.25	9.47 ± 0.55	31.90 ± 1.53	4.75 ± 0.30	32.00 ± 4.19	117.08 ± 8.36	7.40 ± 0.49	4.53 ± 0.28
MD [95% CI]	1.22 [0.16, 2.28]	0.20 [0.06, 0.34]	0.60 [0.23, 0.96]	0.06 [-0.04, 0.14]	0.74 [-0.68, 2.07]	1.07 [-1.28, 3.59]	0.04 [-0.18, 0.26]	0.01 [-0.12, 0.13]
p-value	*0.03*	*< 0.01*	*< 0.01*	*0.25*	*0.28*	*0.42*	*0.72*	*0.98*

Position Groups

Figure 1. Comparisons of tested metrics between Drafted (D) and Undrafted (UD) in the 2022 NFL Draft. *Denotes significance at $p \leq 0.05$.
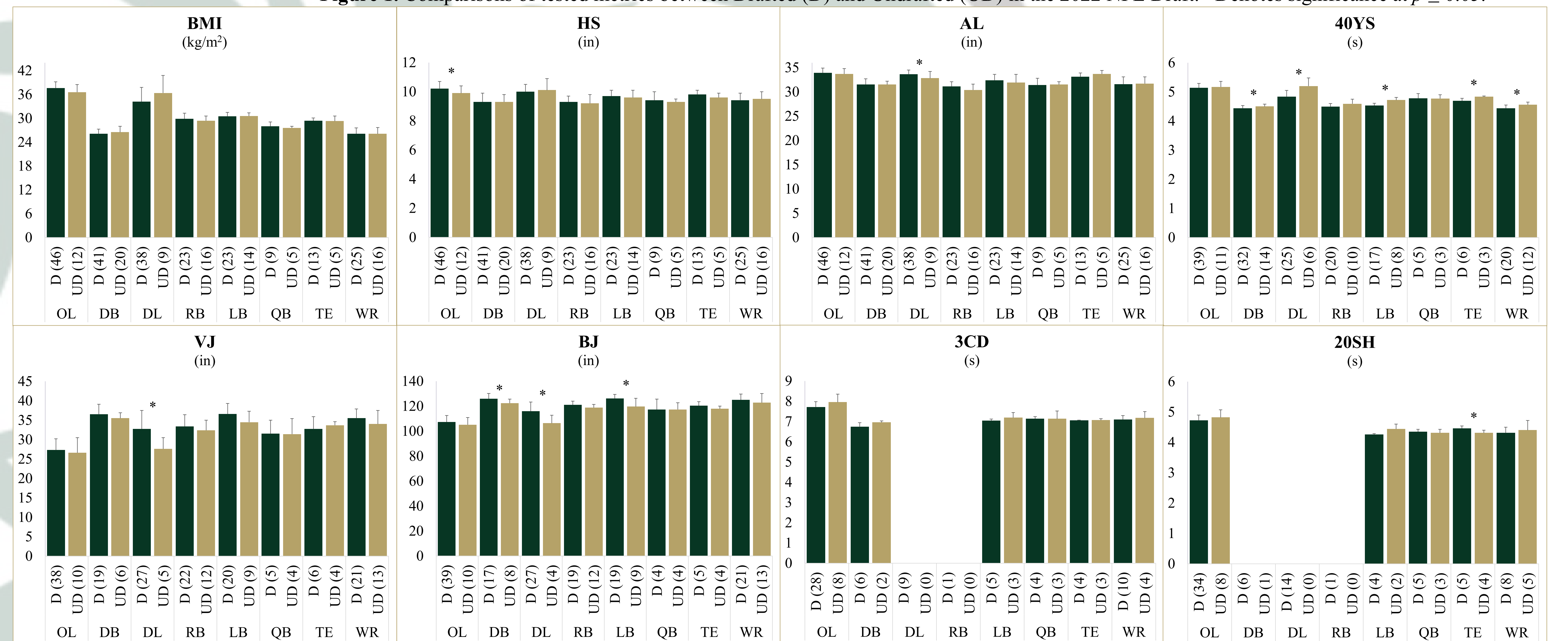
Conclusion

- Drafted players may produce more absolute power and force than undrafted ones given the differences in body size.
- The difference in absolute power production and physical size made players more desirable by teams in the 2022 NFL Draft.
- Position group differences existed in varying degrees, with Defensive Line noting the most differences between draft status.
- Due to limited sample size, caution is warranted before drawing major conclusions within position groups.

Practical Applications

- **Overall, players drafted in the 2022 NFL Draft were physically larger despite no statistical differences in performance metrics.**
- **While some positions vary, smaller athletes appear at a disadvantage of be being drafted compared to their larger contemporaries.**
- **Training for smaller sized athletes should focus on improving tested performance metrics to maximize draftability.**