



Anthropometric and performance profile of elite Gaelic football players comparing position and role

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Received: 4 September 2020 / Accepted: 3 April 2021 / Published online: 8 May 2021
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Abstract

There is currently no information available on the variation in anthropometric and performance characteristics of starters and non-starters in elite Gaelic football. The aim of the current study was to determine if variations exist for elite male Gaelic football players with respect to position and playing role (starter or non-starter). One-hundred-and-sixty-two footballers from six elite teams underwent anthropometric and performance assessments. Players were categorised into six positional groups (goalkeeper, full back, half back, midfield, half forward and full forward) and two playing role groups (starter and non-starter). A significant position \times role interaction was observed for Yo-YoIRT1 distance ($p=0.031$, $p\eta^2=0.078$), with starters covering a greater distance in all positions when compared to non-starters (all $p < 0.05$), except for half backs. Goalkeepers covered a significantly lower Yo-YoIRT1 distance compared to all other positions ($p \leq 0.001$, $p\eta^2=0.35$), while half backs completed a significantly greater distance compared to full backs ($p=0.014$, $p\eta^2=0.35$) and full forwards ($p \leq 0.001$, $p\eta^2=0.35$). Starters had a significantly greater CMJ height ($p \leq 0.001$, $p\eta^2=0.082$) and CMJ PP ($p=0.001$, $p\eta^2=0.08$) compared to non-starters. This research is the first of its kind within Gaelic football to provide anthropometric and performance values with respect to playing role. The data obtained may aid coaches to individualize training regimes to enhance role-specific preparation for competitive match-play.

Keyword Gaelic football · Substitutes · Positional variation · Performance profile

Introduction

Gaelic football can be best described as an invasion field sport, with repeated high-intensity actions that are unstable and stochastic in nature following the ebb and flow of match-play [1]. Teams play with five outfield positional lines; full back, half back, midfield, half forward and full forward [2], with a player's specific role and actual field position varying depending on the team's possession of the ball, chosen tactics and formation [2, 3].

An elite Gaelic footballer's height typically ranges 178–187 cm [4–6]. Midfielders are reported to be significantly taller compared to all other outfield positions [4], often followed by the goalkeeper [7]. However,

non-significant differences among the five outfield positions can occur [8]. Positional variations can also occur regarding body mass, with midfielders and full forwards weighing significantly more than half backs and half forwards [4]. Although, similar to stature, non-significant positional variations regarding body mass have been reported [6]. Higher adiposity % has been observed in full forwards compared to the three middle positional lines [6]. Inconsistencies of anthropometric data between studies are evident within Gaelic football, and thus, the need for further analyses to gain a greater insight into the positional profile of the population.

Research indicates player position has an influence on the distance covered in elite Gaelic football match-play [2, 9, 10]. The three middle positional lines cover the greatest volume of total distance, with a similar positional profile evident for high-speed distance (m ; $> 17 \text{ km}\cdot\text{h}^{-1}$) [11]. Positional variations are also commonly reported during performance assessments [4, 6–9], yet appear to be inconsistent. Full forwards were reported to have a significantly higher countermovement jump (CMJ) height compared to

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midfielders, with no other positional differences observed [6]. However, alternative literature found that half forwards had the greatest CMJ height [4], with more dated research stating midfielders had a significantly greater vertical jump height when compared to back line and forward line players [8]. Regarding velocity, no significant differences are reported for 5, 10 and 20-m sprint times across all positions in elite Gaelic football [6] or elite hurling [12], although midfielders have been seen to perform significantly poorer than all other positions over 20 m [4]. Further research would provide clarity regarding positional velocity values within elite Gaelic football.

It is common for Gaelic footballers to complete Yo-Yo Intermittent Recovery Tests (Yo-YoIRT) to analyse their ability to perform repeated bouts of high-intensity running [13]. Full backs and full forwards have been found to cover significantly less distance than the three middle positional lines during the Yo-Yo Intermittent Recovery Test Level 2 (Yo-YoIRT2) [6, 9]. When Yo-Yo Intermittent Recovery Test Level 1 (Yo-YoIRT1) was considered, unsurprisingly, elite adolescent goalkeepers covered a significantly lower distance compared to all outfield positions [7]. To the authors knowledge, no published literature has produced a large sample size of Yo-YoIRT1 data within elite adult Gaelic football. Although recent literature has begun investigating the diversity in performance characteristics across position [4–6], the research area is still deficient and appears inconsistent. Understanding the position-specific characteristics is crucial for management teams to enhance player preparation for competitive match-play.

In elite Gaelic football, a maximum of five substitutions is permitted during an official game. Coaches utilise substitutions to replace under-performing or injured players [14], to implement tactical changes [15], or to replace a player showing signs of fatigue [16]. To the authors knowledge, there is currently no existing literature analysing the impact of playing role (starting vs. non-starting players) on the anthropometric and performance characteristics of elite Gaelic footballers. However, Gaelic football research examining the match-play movement profile of elite and sub-elite Gaelic footballers found all sub-elite positions covered less relative total distance compared to their elite counterparts [10, 17]. Literature has also compared the match-play running demands of a division one team versus a division three team in elite Gaelic football. The division three team performed significantly greater high-speed running distance, relative high-speed running distance and percentage of time at high speed when compared to the division one team. [18]. Regarding role-specific differences, an investigation conducted in elite Australian football, a field sport with similar characteristics to that of interest [19], reported starters having a significantly better 10 m sprint time and Yo-YoIRT2 distance compared to non-starters. Starters were

also significantly older than non-starters, with no differences detected for height, body mass and sum of seven skinfolds [20]. Literature involving match-play performance in elite Gaelic football [21], elite soccer [22] and elite rugby union [23] reported non-starters to have significantly lower peak speeds compared to starters. However, there is currently no information available on the variation in anthropometric and performance characteristics of starters and non-starters in elite Gaelic football.

Therefore, the aim of this study was to examine the anthropometric and performance characteristics of elite male Gaelic football players with respect to position and playing role. It was hypothesised that starters would have a significantly better performance profile compared to non-starters, with no significant differences regarding the anthropometric profile expected to be present when comparing position or role.

Methods

Experimental design

To better understand the position- and role-specific characteristics of elite male Gaelic football players, one-hundred-and-sixty-two ($n = 162$) inter-county players from six teams were recruited for the current study. All players were made aware of the risks involved in performance testing and signed informed consent forms. All assessments were carried out in an indoor environment to avoid external influences on data collection. Participants were advised to avoid adrenergic beverages and abstain from vigorous exercise for 24 h prior to the commencement of testing. Testing was carried out over two days and conducted in the following order; Day 1—height and body mass, followed by sum of seven skinfolds and % adipose tissue, followed by jump performance (CMJ height and peak power). Day 2—sprint performance (5, 10, 20 m), followed by a 30-min recovery period before completing the Yo-YoIRT1. Assessments took place at a similar time of day (18:00–20:00) across the two testing days to avoid any circadian variation in performance [24]. Testing was organized and conducted in the same manner for all six teams. All participants were assessed using the same instruments. Informed consent was given by the local board of ethics for this study and conforming to the Code of Ethics of the World Medical Association (Declaration of Helsinki, 1964).

Participants

One-hundred-and-sixty-two elite Gaelic footballers (mean \pm SD; age 24 ± 4 years, stature 183.7 ± 5.9 cm and body mass 84.7 ± 7.9 kg, respectively) participated in the

current investigation. The available data arose as a condition of anthropometric and performance assessments which are routinely measured over the course of an elite Gaelic football season. With the consideration of anthropometric characteristics to be assessed, only Irish natives were included in the study. The considered and utilized data were collected in the first week of May from 2014–2019. This time of season was known to the authors as a common testing period for elite Gaelic football teams. Therefore, it was deduced that this would be the most appropriate period to collect a large sample size at the same time of year. For the comparison of position, players were categorised into one of six positional groups; goalkeeper ($n = 12$), full back ($n = 34$), half back ($n = 28$), midfield ($n = 20$), half forward ($n = 34$) and full forward ($n = 34$). For the comparison of playing role, players were categorised into one of two groups; starter ($n = 80$) and non-starter ($n = 82$). A player was considered a starter if they started a match in the All-Ireland Football Championship during the season their assessments were undertaken. The squads included had a mean of thirty players per team. The teams involved typically train five times per week, consisting of three field sessions (1–2 h per session) and two gym sessions (1–1.5 h per session). Participants were included if they were players on the elite male Gaelic football panel, and were declared fit by the medical team. Players were excluded from the assessments if they sustained an injury in the two weeks prior to testing and/or were declared unfit by the medical staff.

Anthropometry

Anthropometric assessments were carried out prior to performance testing. Stature and body mass were measured using a Seca Stadiometer and a weighing scales (Seca Instruments Ltd, Germany), respectively. The sum of seven skinfold sites (bicep, tricep, supraspinal, subscapular, abdominal, thigh, calf) was conducted by the same tester across all six teams, using a Harpenden skinfold callipers (Harpenden Instruments Ltd, England) to estimate adipose tissue mass. The stated instrument is validated by the International Society for the Advancement of Kinanthropometry (ISAK) [25]. The % adipose tissue (%AT) was calculated using the Reilly equation [26], and was assessed by a Level 2 ISAK qualified tester. The error of measurement was calculated for all anthropometric characteristics for each participant, and was found to be less than 3% which is an acceptable measurement error [27]. Fat free mass was calculated as follows: body mass (kg) multiplied by $(1 - (\%AT/100))$ [28].

Performance

Performance assessments were preceded by each teams own individualized warm-up. CMJ height and CMJ peak power

(CMJ PP) were calculated using a jump assessment system (Optojump, Bolzano, Italy, version 1.12). CMJ was determined using the highest value of three attempts, with a one-minute recovery period exercised between trials. The chosen CMJ procedure was a no arm-swing with hands placed on the hips for the duration of each jump. Participants were instructed to have their legs in a hip wide position. A fast downward movement to approximately 90° knee flexion, immediately followed by a fast upward vertical movement as high as possible all in one sequence [29]. The validity [30] and test–retest reliability [29] of this CMJ method have been previously reported. Furthermore, the reliability of the stated jump assessment system to measure vertical jump height in team sports has been previously reported [31]. Next, sprint times were recorded over 20 m with timing gates located at 5, 10, and 20 m (Witty, Microgate, Bolzano, Italy, version 1.5.7). Players started from stationary, and in their own time sprinted through all timing gates with the final gate placed 20 m away. A 5-min recovery period was taken between trials, with the quickest of three attempts obtained as a player's final score. The recording of 5, 10 and 20-m sprint times using electronic timing gates has been found to be reliable in team sports [32]. Lastly, participants completed the Yo-YoIRT1. This test focuses on the capacity to carry out intermittent exercise leading to a maximal activation of the aerobic system. Yo-YoIRT1 involves short distance, high-intensity running efforts (2×20 m shuttle runs at increasing speeds, interspersed with 10-s active recovery periods) to be undertaken, with the test typically lasting 10–20 min for a trained individual [13]. The validity and reliability of Yo-YoIRT1 to measure fitness performance in team sports have been previously reported [33, 34]. There was a 15-min recovery period between each of the three performance assessments.

Data analysis

All data are presented as mean \pm standard deviation (SD). No outliers were removed from the data. A two-way ANOVA was conducted to examine interactions and main effects for position (goalkeeper, full back, half back, midfield, half forward and full forward) or playing role (starter and non-starter) comparing differences in age (years), height (cm), body mass (kg), sum of seven skinfold (mm), %AT, fat free mass (kg), CMJ (cm), CMJ PP (W), and Yo-YoIRT1 (m). We also examined differences in position and playing role for sprint ability over 5 m, 10 m, and 20 m using a two-way MANOVA. The assumptions of normality (Shapiro–Wilk), and homogeneity of variances (Levene's) were verified for all analysis, and in addition, we verified no multicollinearity issues in the MANOVA using correlation coefficients for all dependent variables. Where main effects or interactions were

observed, a post hoc analysis was conducted under a Bonferroni adjustment for multiple comparisons (SPSS adjusted p reported). Partial eta squared is reported for all main effects. Significance was accepted where $p \leq 0.05$ (Statistical Package for the Social Sciences data analysis software V23.0, SPSS Inc., Chicago, Illinois, USA).

Results

Anthropometric characteristics

There were no significant interaction effects or simple differences observed for age, stature and body mass. All descriptive statistics for the dependent variables can be observed in Table 1.

There were no significant interaction effects or simple differences observed for sum of seven skinfolds, %AT and FFM.

Performance characteristics

There were no significant interactions between position and role when examining both CMJ and CMJPP. There was also no main effect for position for both CMJ and CMJPP. However, it was observed that starters achieved a significantly better score compared to non-starters in both CMJ height (mean difference 3.79 cm; 95% CI of the difference [1.74 to 5.84 cm]; $p \leq 0.001$; $p\eta^2 = 0.082$) and CMJ PP ((mean difference 317.05 W; 95% CI of the difference [137.6 to 496.5 W]; $p = 0.001$; $p\eta^2 = 0.08$). Differences in starters vs non-starters CMJ and CMJPP can be observed in Table 1.

When examining the 5, 10, and 20-m sprint performance across position and role using a MANOVA, no interaction was observed. In addition, we observed no significant main effect for position and role when comparing across all three distances. Performance times for each position and role when compared across distances can be observed in Fig. 1.

We observed a significant position \times role interaction when examining Yo-YoIRT1 distance ($p = 0.031$, $p\eta^2 = 0.078$). This interaction was explored with simple

Table 1 Anthropometric and performance characteristics with respect to position and role (mean \pm SD)

Character-istics	Total ($n = 162$)	Goalkeeper ($n = 12$)	Full back ($n = 34$)	Half back ($n = 28$)	Midfield ($n = 20$)	Half forward ($n = 34$)	Full forward ($n = 34$)	Starter ($n = 80$)	Non-starter ($n = 82$)
Age (years)	24.4 \pm 3.5	26.3 \pm 4.3	24.3 \pm 3.8	25.2 \pm 3.9	23.8 \pm 3.3	23.9 \pm 3.1	24.2 \pm 4.1	24.6 \pm 3.6	24.2 \pm 3.5
Stature (cm)	183.7 \pm 5.9	186.9 \pm 6.1	184.1 \pm 6.0	181.9 \pm 6.1	186.1 \pm 3.9	182.8 \pm 5.8	183.0 \pm 6.2	183.9 \pm 6.4	183.5 \pm 5.4
BM (kg)	84.7 \pm 7.9	89.9 \pm 5.8	83.7 \pm 6.8	85.9 \pm 8.3	85.9 \pm 8.3	83.7 \pm 7.6	85.8 \pm 8.9	85.6 \pm 9.1	84.0 \pm 6.5
SOSS (mm)	51.8 \pm 12.4	55.8 \pm 12.2	51.0 \pm 9.6	51.0 \pm 12.2	54.4 \pm 12.3	48.3 \pm 8.5	53.7 \pm 16.0	51.9 \pm 12.5	51.6 \pm 12.5
% AT	9.7 \pm 1.6	10.3 \pm 1.8	9.6 \pm 1.2	9.8 \pm 1.7	9.9 \pm 1.8	9.3 \pm 1.4	9.9 \pm 1.9	9.7 \pm 1.6	9.7 \pm 1.6
FFM (kg)	76.5 \pm 7.2	80.6 \pm 5.5	75.6 \pm 6.1	74.9 \pm 7.3	77.4 \pm 7.6	75.9 \pm 7.0	77.3 \pm 8.4	77.2 \pm 8.2	75.8 \pm 6.1
CMJ (cm)	41.1 \pm 6.2	39.5 \pm 8.7	41.9 \pm 5.7	42.0 \pm 5.7	41.1 \pm 5.4	39.9 \pm 5.9	41.3 \pm 6.7	42.7 \pm 5.8	39.5 \pm 6.1*
CMJ PP (W)	4276 \pm 540	4407 \pm 561	4274 \pm 513	4255 \pm 470	4326 \pm 596	4155 \pm 438	4339 \pm 672	4411 \pm 565	4144 \pm 482*
5 m Sprint (s)	1.09 \pm 0.08	1.10 \pm 0.08	1.09 \pm 0.08	1.08 \pm 0.08	1.1 \pm 0.07	1.07 \pm 0.09	1.09 \pm 0.09	1.08 \pm 0.07	1.09 \pm 0.09
10 m Sprint (s)	1.82 \pm 0.08	1.82 \pm 0.11	1.82 \pm 0.06	1.80 \pm 0.06	1.84 \pm 0.08	1.80 \pm 0.07	1.82 \pm 0.08	1.80 \pm 0.07	1.83 \pm 0.08
20 m Sprint (s)	3.09 \pm 0.12	3.07 \pm 0.10	3.08 \pm 0.11	3.06 \pm 0.12	3.12 \pm 0.10	3.09 \pm 0.14	3.10 \pm 0.11	3.07 \pm 0.12	3.10 \pm 0.11
Yo-YoIRT1 (m)	2336 \pm 444	1627 \pm 538 _{a,b,c,d,e}	2353 \pm 317	2624 \pm 310 _{a,e}	2456 \pm 523	2392 \pm 403	2206 \pm 283	2548 \pm 388	2130 \pm 395*

BM body mass, %AT adipose tissue percentage, SOSS sum of seven skinfolds, FFM fat free mass, CMJ countermovement jump, CMJ PP countermovement jump peak power, Yo-YoIRT1 Yo-Yo intermittent recovery test level 1

*Significantly different from starter ($P \leq 0.05$)

Significantly ($p \leq 0.05$) different from:

^aFull back,

^bHalf back,

^cMidfield,

^dHalf forward,

^eFull forward

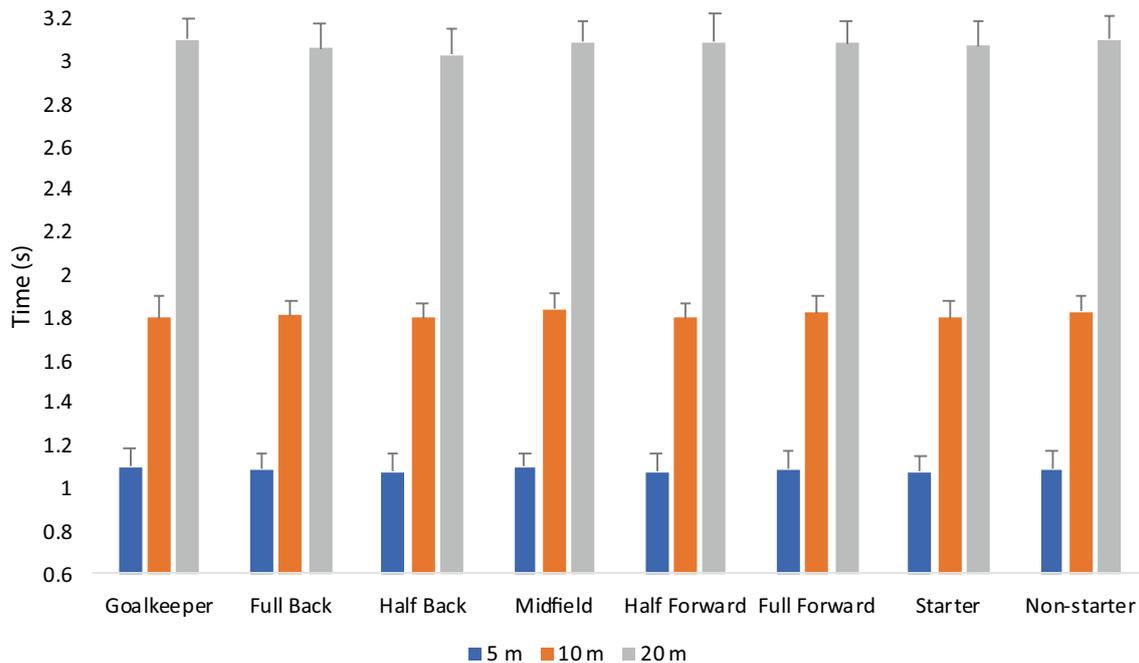


Fig. 1 Sprint times with respect to position and playing role. Error bars represent SD

main effects; significantly higher Yo-YoIRT1 distances were observed between all positions for starters when compared to non-starters (all $p < 0.05$), with the exception of half backs, which was not different when comparing role ($p = 0.440$). When examining differences in position, goalkeepers were consistently observed to have significantly lower Yo-YoIRT1 distances than all other positions in both the starters and non-starters groups (all $p < 0.05$). In addition, in the non-starter group, half backs were observed to cover significantly more distance than both midfielders and half forwards ($p = 0.036$, and $p = 0.006$, respectively). Results of the Yo-YoIRT1 can be observed in Fig. 2.

A post hoc power analysis for all results identified that power $\geq 80\%$ was only achieved for two dependent variables (CMJ and CMJ PP) for main effects between role, and for main effects between role and position for one variable (Yo-YoIRT1). No other variables achieved a statistical power above 80%.

Discussion

The aim of the current study was to analyse the anthropometric and performance characteristics of elite male Gaelic footballers with respect to position and playing role. The investigation is the first of its kind to offer anthropometric and performance values of elite Gaelic footballers with respect to playing role. The key findings were that goalkeepers had a significantly lower Yo-YoIRT1 distance

compared to all other positions, while half backs performed significantly better than both full backs and full forwards. A significant position \times role interaction was observed for Yo-YoIRT1 distance, with starters covering a greater distance in all positions when compared to non-starters, except for half backs. Regarding role, starters had a significantly better CMJ height, CMJ PP, and Yo-YoIRT1 distance compared to non-starters, and thus accepting the research hypothesis. Furthermore, in the non-starter group, half backs were observed to cover significantly more Yo-YoIRT1 distance than both midfielders and half forwards. No other differences were observed between position and playing role in this study. These data suggest a role-specific performance profile may exist amongst elite male Gaelic football players with regard to power and aerobic fitness.

Anthropometry

There were no significant effects detected for age, stature and body mass across position or playing role. The similarity between the positions is in agreement with previous Gaelic football [6] and hurling [12] literature, which observed a relative homogeneity across position for stature and body mass. However, positional differences regarding stature have been observed in Gaelic football, with midfielders found to be taller than all other outfield positions [4], often followed by the goalkeeper [7]. It should be noted that the data of the current study were collected over a 5-year period, whereas the data of previous Gaelic football literature examining

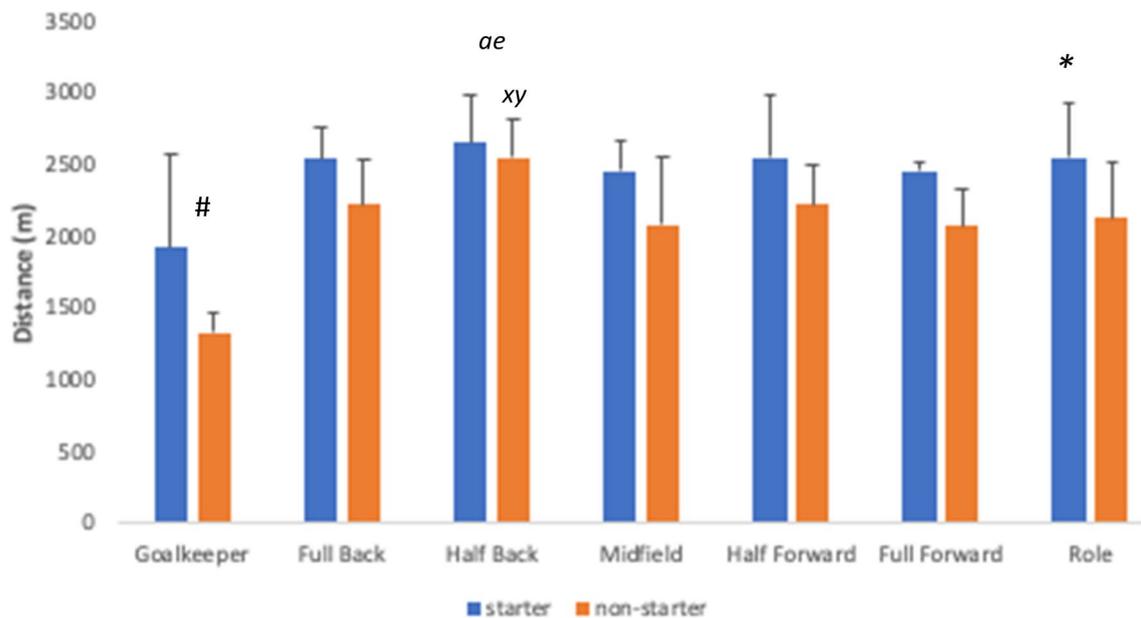


Fig. 2 Yo-YoIRT1 distance with respect to position and role. Error bars represent SD Significantly different from all other positions (independent of role; $p \leq 0.05$)=# Significantly different from non-

starter ($p \leq 0.05$)=* Significantly ($p \leq 0.05$) different from: a=full back, e=full forward Significantly ($p \leq 0.05$) different from: x=non-starter midfield, y=non-starter half forward

anthropometry were collected at a single time point [6, 7] or over the course of a single season [4]. Anthropometric comparisons of starters and non-starters in Australian football examined over a three month period similarly found no significant differences for stature and body mass. However, in contrast to the findings of the current investigation, starters were found to be significantly older than non-starters. [20]. Further research is required to determine if role-specific variations exist for age, stature and body mass within Gaelic football.

Furthermore, there were no significant effects detected for sum of seven skinfold, %AT and FFM across position or playing role. Contrastingly, Shovlin et al. (30) reported during the examination of five elite Gaelic football teams ($n = 148$) at a single time point over a one month period, that full forwards had a significantly higher %AT compared to half backs, midfielders and half forwards. However, more dated Gaelic football research found no significant difference for body fat % positions [8]. Elite soccer literature examining pre-season body composition differences ($n = 82$, across two seasons, two year period) also reported goalkeepers to have a significantly higher FFM and body fat percentage compared to midfielders and forwards [35]. Previously reported positional anthropometric variations in Gaelic football may be explained by differences in match-play demands [11, 19], corresponding to differing subcutaneous fat levels. Moreover, Australian football research of one elite team ($n = 34$) similarly observed significant positional differences for sum of seven skinfold, with no significant effect detected when

comparing starters and non-starters [20]. Further research is required to gain a greater understanding of position- and role-specific anthropometric differences in elite Gaelic football.

Performance

There were no significant effects detected for CMJ height and CMJ PP across position. Existing literature contrastingly reported full forwards significantly outperformed midfielders in CMJ height [6]. This alternative finding may be explained by a reduction in contested aerial duels by midfielders in recent seasons, due to the advent of the short kick-out during match-play [36]. Regarding role, starters had a significantly greater CMJ height and CMJ PP compared to non-starters. Similar findings were discovered within Australian football, which also reported starters to significantly outperform non-starters regarding CMJ height and CMJ power ($W \cdot kg$) [20]. Gaelic footballers are required to contest aerial duels for possession during competitive match-play. The need for these athletes to possess adequate power characteristics, such as jump height, may be an important factor to consider during team selection.

There were no significant effects detected for 5, 10 and 20-m sprint times across position or playing role. Regarding position, the current findings are in line with existing elite Gaelic football [6] and elite hurling [12] investigations, which also reported non-significant positional differences for sprint times. In recent years, high-speed distance

demands have increased for all positional lines [2, 19]. These increased demands subsequently require all outfield positional lines to be able perform repeated high-intensity bursts during match-play [1], thus resulting in minimal positional speed variations. Regarding role, contrastingly, previous Australian football literature reported starters to have a significantly greater 10 m sprint time compared to non-starters. However, similar to the current investigation, no significant effect over the 5 and 20-m distance was discovered [20]. Further research is required to determine if a role-specific velocity profile exists within Gaelic football.

Variations in Yo-YoIRT1 performance were evident, with goalkeepers covering a significantly lower distance compared to all other positions, while half backs had a significantly greater distance compared to full backs and full forwards. In support of these findings, literature involving adolescent elite Gaelic footballers reported goalkeepers to have a significantly lower Yo-YoIRT1 distance compared to all outfield positions [7]. Analysis using Yo-YoIRT2 found the three middle positional lines had a significantly greater distance compared to full backs and full forwards [6]. The middle three positional lines are commonly reported to experience the greatest match-play demands [1, 19]; therefore, the findings of the current investigation are unsurprising. Regarding role, starters covered a significantly greater Yo-YoIRT1 distance compared to non-starters. Elite Australian football literature similarly discovered starters to cover a significantly greater Yo-YoIRT2 distance compared to non-starters [20]. Yo-YoIRT1 assesses the ability to repeat high-intensity efforts [37]. Elite Gaelic footballers are reported to complete 166 ± 41 accelerations during match-play [5]. An enhanced aerobic system in starters as measured by Yo-YoIRT1 may result in quicker recovery from high-intensity running, and therefore allow them to impact match-play to a greater extent. To the authors knowledge, the current study is the first to produce a large sample of Yo-YoIRT1 data within elite adult Gaelic football. Therefore, future studies are required to confirm if a position- and role-specific profile exists for the Yo-YoIRT1 at elite adult level.

Although the large sample size within the current study is beneficial, the dataset including six different teams must be considered. Elite Gaelic footballers coming from different teams, with varying training strategies, coaches and physical preparation programs is a noted limiting factor. Data collection was conducted over a period of five years (2014–2019). During this time frame, improvements in knowledge of factors, such as athletic preparation, may have influenced the data. With that said, the current investigation builds on existing anthropometric and performance profiles within Gaelic football [4, 6], and provides normative data regarding position- and role-specific variations.

To conclude, the current investigation is the first of its kind within Gaelic football to include the anthropometric and performance profile of goalkeepers. Significant

differences in performance characteristics were observed with respect to position and role. Variations discovered include aerobic fitness and power capacity differences, with half backs outperforming full backs and full forwards regarding Yo-YoIRT1 distance, and starters outperforming non-starters in CMJ height, CMJ PP and Yo-YoIRT1 distance. With further research, the role-specific characteristics may become a significant factor regarding team selection.

Practical applications

The data obtained can be applied by coaches to gauge anthropometric and performance characteristics in elite Gaelic football cohorts. The data collected in the current investigation may aid future Gaelic football practitioners to assess the anthropometric and performance profile of their athletes. Although no significant anthropometric differences were evident, future trainers may refer to these values as normative for elite adult Gaelic footballers as a whole. These findings may also be exploited by elite footballers aiming to secure a starting position with their respective elite team. For non-starters, the data may set a goal to reach the physical capacity of a starter counterpart, while also providing scores for starters to maintain to remain in their current category. The results of the current study may also provide target scores for competing athletes. Sub-elite players with ambitions of playing elite Gaelic football may use the results as normative values to strive to achieve to increase their chance of selection for an elite panel. Management teams may use these findings, as an additional factor, to aid team selection for elite match-play. Enhancing aerobic fitness capacity should be an aim of a non-starter to allow them to complete more high-intensity efforts due to a faster recovery time between bouts. Non-starters should also obtain the objective of increasing lower body peak power to enhance jump performance. With the presence of further analyses, role-specific performance characteristics may become a factor in team selection.

Funding Open Access funding provided by the IReL Consortium. No funding was provided for the completion of this study.

Data availability The authors confirm that the data supporting the findings of this study are available within the article and its supplementary materials.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval Ethical approval was given by the local board of ethics for this study and conforming to the Code of Ethics of the World-Medical Association (Declaration of Helsinki, 1964).

Informed consent All players were made aware of the risks involved in performance testing and signed informed consent forms.

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