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Goalkeeping in Modern Football: Current Positional Demands and Research Insights

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Abstract

The goalkeeper in football arguably presents a critical playing position within a modern game that often appears to be highly dynamic, unpredictable, and constantly changing. Because of the privilege to use the hands and FIFA's 'back-pass law', the list of goalkeeper tasks extends to a wide-range of responsibilities in possession of the ball and when defending the goal and space. With the aim of providing an applied overview of the complex GK demands in the modern game and consequences for position-specific coaching, the following article presents current practical advances on the various areas of physical, technical-tactical, mental/psychological, and social GK development. To further showcase complex GK tasks and actions, a framework of technical-tactical areas in goalkeeping is introduced and linked to recent empirical research in the field of goalkeeping. This understanding of position-specific demands may support future development of individualised, athlete-centred training interventions, coaching approaches and match performance analysis. Along the way, the article offers several avenues for future research contributions to this unique field within football studies and aims to stimulate readers' thoughts.

Introduction

The goalkeeper (GK) in football arguably presents a critical playing position in an overall team's match performance and requires a high level of proficiency across various complex goalkeeping tasks and actions (e.g., Ziv & Lidor, 2011; Shafizadeh et al., 2016; White et al., 2018). Because of the privilege in using the hands and after FIFA's 'back-pass law', introduced in 1992, the list of goalkeeping tasks extends to a wide-range of responsibilities in possession of the ball and when defending the goal and space. In the legendary Sir Bobby Robson's words:

A GK needs to "be FOUR dimensional, with vision to left and right, good at catching high balls and stopping high shots and able to go to ground not just to make saves but at the feet of a flying centre forward. If he is missing in any of these departments he has a profound weakness."

On an applied level, the GK position appears highly dynamic, surrounded by 'open' environmental conditions (Otte et al., 2019). What this means: dependency on the attacking and own teams' interactions require for GKs to often be rather reactive in goal and space defence situations. Thus, the environment for GKs, constrained by multiple informational variables and factors, is complex, unpredictable, and constantly emerging. For example, numbers of attackers and defenders involved, positioning of players on the pitch, changing weather and pitch conditions, the game score, ball movements and many more variables greatly impact action opportunities perceived by the GK.

With the aim of providing an applied overview of the complex GK demands in the modern game and the consequences for position-specific coaching, the following article presents some practical advances on the various areas of physical, technical-tactical, mental/psychological, and social GK development. While we integrate relevant advances in academic research with contemporary practical developments in football and GK coaching, this work is limited to an overview. Hence, this coaching synopsis aspires to stimulate

readers' thoughts and prompt future research contributions to this unique field within football studies.

Physical demands and match activity profiles in football goalkeeping

Physical goalkeeping demands.

Concerning the physical demands in football goalkeeping, several studies have assessed GK's biomechanical diving characteristics and general GK profiles (see West, 2018, and White et al., 2018, for detailed reviews). Here, research provides evidence for GKs to commonly be heavier compared to outfield players (e.g., Gill et al., 2007, 2014; Mala et al., 2015). Body mass can be a distinguishing feature for goalkeepers, who are typically classified as being heavier than other outfield players. However, Sutton et al. (2009) found goalkeeper's body fat percentages to be 12.4-12.5%. These values were similar to other outfield players but less than population body fat values (normal values 18.5-24.9%, Saddam et al 2019). This increased body mass is related to a greater volume of lean muscle mass (Portes et al. 2015), vital for generating the strong, powerful movements which are part of the goalkeepers' performance. Physical height may (superficially) be viewed as one key performance indicator in professional goalkeeping (Hughes et al., 2012). With an average GK height of 191.83cm ($\pm$ 5.24cm) during the 2017/18 English Premier League (EPL) season, GKs were found to be significantly taller than outfield players with an average of approximately 183cm (West, 2018). More recent data from the 2020/21 EPL season confirms these findings with an average GK height of 190.77cm and 70% of GKs falling into a height range between 188-193cm (Goalkeepers Anonymous, 2021). However, despite these findings, it must be stated that mere height should never be considered the exclusive (if at all any) criteria for GK selection.

Consideration of various other physical categories appears to be more promising, as recently explored by Otte and colleagues (2019). According to numerous top-level football GK coaching experts, the categories of *speed and explosive power, strength, fitness/endurance,*

coordination and *mobility* were considered of significant importance for elite GKs' performances. These empirical observations are supported by science and performance tests, assessing various strength-, speed-, and endurance-related variables in GKs (e.g., jumping height, leg power, linear and multidirectional sprinting, and aerobic capacity; see White et al., 2018). While well-developed aerobic endurance and mobility are needed to "carry out training both in terms of volume and intensity [... and] be able to carry out the specific manoeuvres associated with the position" (FIFA, n.d, p. 156), short-duration explosive power and functional strength support a GK's ability to accelerate, jump and dive quicker, higher, and further (Nikolaidis et al., 2015; Sporis et al., 2009). For example, a recent series of studies into GKs' diving mechanics by Ibrahim and colleagues (2018, 2019) found a GK's pre-dive stance width of 75% of individual leg width to lead to more efficient, optimal and fastest diving movements. During the dive, the contralateral leg (as opposed to the ipsilateral leg/ diving side leg) was essential to contribute to centre of mass velocity. Results provide several implications for goalkeeping and S&C coaches concerning strength training; for example: an emphasis on hip extensions and kinetic energy transfer from lower to upper body; strength work out of a wider (75% of individual leg width) leg stance; and horizontal lateral exercises, such as sideward jumping, with a focus on contralateral leg push-offs. Goalkeepers usually perform split steps before carrying out diving saves, allowing for pre-activation of the legs (Herveou et al. 2018). However, the keeper may dive to either side resulting in different preparation for each leg. To overcome this, single leg training and testing has been found to affect performance, where larger strength asymmetries may negatively impact performance (Bishop et al. 2017). In sum, athleticism (excluding mere physical height) and outstanding athletic efficiency may be regarded as non-negotiable pre-conditions for any elite GK to maintain high performance levels (Otte et al., 2019).

Physical match activity profiles of GKs.

The analysis of physical activities in football matches further underlines above-mentioned differences between positional profiles of GKs and outfield players. First, Di Salvo and colleagues (2008) found EPL GKs' total running distances covered during matches to average around 5611m ($\pm$ 613 m). With average running distances of 56m ($\pm$ 34m) at high-intensity speed, 11m ($\pm$ 12m) at sprinting speed and an average number of 10 ($\pm$ 6) high speed actions, a distinct physical profile with only 2% of movements at high-intensity (compared to 73% at walking speed) could be observed (Di Salvo et al., 2008). These findings closely match a recent analysis by Szwarc and colleagues (2019) that states elite GKs in Poland to have covered 72.7% of distances at walking/jogging speed, 25.8% at running speed and 2.5% at sprinting speed. Second, Gil et al. (2014) found GKs' sprint distances to typically vary between 1 and 12m, explaining other findings on lower blood lactate concentrations and VO₂ max values compared to football outfield players (Sporis et al., 2009; Ziv & Lidor, 2011). These results are further confirmed by White and colleagues' (2018) GK performance literature review that states GKs to cover between ~4–6km with only few high-intensity actions, sprints, and minimal amounts of physical fatigue during matches. One consequence of these insights arguably concerns the need for GKs (compared with outfielders) to be prepared in an individualized and specific way to maintain physical proficiency throughout the entire duration of a 90+ minutes match.

GK match analysis data.

Knowledge about the distinct physical demands for the GK position extends to further match analysis data on GKs' technical-tactical actions. Here, Rechner and Memmert's (2010) video-based analysis during the 2008 European Championship reveals a total of 19.42% of actions concerning GKs *defending the goal* (on average, 7.75 actions per game/per GK), 7.39% GKs *defending crosses and sweeping* (on average 2.95 actions per game/per GK), and 73.19% GKs *distributing and opening the game* (on average 29.21 actions per game/per GK). In

comparison, during the 2017/18 EPL season statistics show an average of 5.7 GK saves per game (Premier League, 2018). Most GK saves, using a range of movement solutions, were found to result from shots between the 6- and 18-yard lines by other research (DiCicco, 2007). Interestingly, Serrano and colleagues (2018) longitudinal investigation of GKs' actions in Spanish LaLiga from 2011/12 to 2016/17 indicates a significant reduction in the total number of saves over six seasons. Notably, while the actual numbers of GK-specific actions will vary greatly depending on contextual variables like the game's evolution over time, each team's game model, playing style and level, "changes in playing philosophies suggesting more instances for goalkeepers to be involved in distributing" than in defending the goal or space (West, 2018, p. 1218). This statement may be confirmed by various additional investigations into GK actions (e.g., Liu et al., 2015; Mercado- Hernández et al., 2022; Obetko et al., 2022). For example, Obetko and colleagues (2022) examined twelve GKs from four top European football leagues (i.e., in England, Germany, Spain and Italy), noting the increasing dominance of GKs' offensive/ attacking actions with 75-80% over defensive actions (i.e., especially through short and medium distance passes). Here, these authors not only indicate an increase in attacking actions (along with a decrease in defensive interventions), but also an improvement in the quality of attacking actions by a success rate ranging between 88.97% and 91.66% across the leagues. Findings note the increasing demands and pressures on GKs displaying high success rates of game activities at the high-performance end of football.

To further expand on match analysis data regarding GKs' actions, nowadays more sophisticated, and big-data science approaches are used to evaluate and compare GK performances in competition; this, by expanding to large quantitative data sets with consideration of countless situational variables, such as the match period, level of players and teams, pressure situation, shooting distances, angles, and conditions, (e.g., Harrison, 2020; Liu et al., 2015). Here, Yam (2019) presents a *Goalkeeper Evaluation Framework* that (amongst

numerous variables) evaluates data to offer insight into GKs' performances. The author uses metrics, such as *goals saved above average* (GSSA), *claims collected above average* (CLCAA/CCAA) and *total positive outcome contribution* (TPO) when distributing the ball. Additionally, Harrison (2020) provides an overview of relevant data-driven goalkeeping statistics. These calculations of the so-called *expected save percentage* may be considered when analysing whether a GK 'should' save a shot by "taking historical shot data and finding the probability that a shot gets saved" (p. 5). Harrison concludes the evaluation of various metrics as followed:

"Clean sheets, goals conceded, total saves, and pass completion are all metrics which are not good measures of goalkeeping ability. They are strongly correlated to factors which are out of the goalkeeper's control [...] **Save percentage and short/long pass completion** are metrics which are also not good measures of goalkeeping ability. This is due to hidden variables which do not even out of the course of a season. [...] Calculating a **goalkeeper's expected save percentage and comparing this with their actual save percentage** is a much more robust way to evaluate a goalkeeper's ability to stop shots. This is because expected save percentage takes into account the distance and angle of the shot, the build-up which led to the shot, the velocity of the shot, the placement of the shot, and the body part the shot was taken with." (p. 6)

While deeper investigation of big data science and statistical modelling of GK performances exceeds the scope of this overview, it certainly warrants future research. Moving away from performance analysis into GK-specific coaching, the following sections will now dive deeper into coaching education theory on technical-tactical demands in goalkeeping and its contemporary training approaches.

Technical-Tactical demands in modern goalkeeping

Moments of a football game and transfer to goalkeeping.

Prior to continuing the analysis of positional football GK demands from a technical-tactical viewpoint, gaining understanding of the *moments of the game* presents critical information for coaches (see Dauti, 2020). The four moments that a football team in any given open-play game situation may experience include: 1. *established attack*, 2. *established defence*, 3. *transition from attack to defence*, and 4. *transition from defence to attack* (see Hewitt et al., 2016). Here, Dauti (2020) emphasises the importance "to understand and define when each moment of the game occurs and to understand the interaction between our team's moments

with the opponent's moments". Notably, this synthesis of football moments may further be extended by a fifth game moment of *set pieces* (Hewitt et al., 2016). For example, according to a technical report on the 2021 UEFA Champions League season, 31% of all goals (including penalties) and 16% of goals (excluding penalties) were scored from set pieces, such as corner kicks (n=33 goals), direct free-kicks (n=9 goals), indirect free-kicks (n=11 goals) and throw-ins (n=1 goal; see UEFA, 2021a). Considering all five football moments, advanced football knowledge appears to be key for coaches in order to deduce GK-specific actions from these tactical structures of dynamic football games. Only by understanding the tactical essence of the game, its interactions between teams and their defensive and offensive playing units, coaches will be able to effectively analyse (GK) game performances and design training tasks high in game-representativeness (Otte et al., 2019b). This game understanding is also true of GK's abilities as they need to understand potential impacts of their decisions and actions as the play progresses. Put simply, modern goalkeeping, its positional demands and developments should not be viewed in isolation of team tactics. Further, GK coaching and training designs should not be separated from team training (as may traditionally have been the case within this domain for years; Otte et al., 2019a). These notions of GK-team integration may be underlined by the recent UEFA technical analysis on goalkeeping during the 2020 European Championships (see UEFA, 2021b). In the words of technical observer Packie Bonner:

"The championship again highlighted the enormous impact the goalkeeper of today has within the technical strategy of his team"

A technical-tactical GK framework – position-specific tasks, actions and principles.

Across GK coach education, the range of complex GK tasks is commonly divided into three broad categories: **GOAL DEFENCE** (i.e., the GK directly defends the goal; GD), **SPACE DEFENCE** (i.e., the GK defends the space in front of the goal to avoid the opposing team from attacking the goal directly; SD) and **ATTACKING GAME** (i.e., the GK participates in the game when their own team is in possession of the ball or the GK initiates an attack; AG)

(see Otte et al., 2019a, 2020a, for a detailed breakdown of various GK specific tasks and actions). These tasks, in principle, are driven by the game moment that each GK's team is experiencing at any certain point, and extend to various transition and support moments for the GK. For example, Team A has possession of the ball and the team's GK may be positioned high-up the pitch to support play. In response to loss of possession by Team A and a resulting counterattack of Team B, Team A's GK may be required to directly switch towards defending the goal (i.e., transitioning from supporting their own team's attacking game and to defending the goal in a 1v1 situation inside the box). To further showcase various complex GK tasks and actions, Figure 1 present a framework (including various layers) of technical-tactical areas in goalkeeping. Further, Table 1 introduces more detail on common GK actions that are predominantly based on Rechner and Memmert's (2010) goalkeeping performance analysis.



Figure 1. Framework of various football goalkeeper tasks and actions including its connection to football game moments (adapted and edited from Oceania Football Confederation, 2019).

Coding Category	Sub-categories	Definition
GK Actions*		
(*adapted from Hughes et al., 2012; Otte et al., 2020a, p. 328, and Rechner & Memmert, 2010)		
	Ball Handling Skills	Relatively simple catching and falling movements in order to save shots on goal (e.g., making a 'basket or cup' to catch a central shot or falling sideways to secure a ball).
	Push-off Diving/ Collapse Diving	Explosive jumping and diving movements and actions to save shots deep into the corners of the goal (i.e., low and high) from medium and far distances.
	Close distance & 1-versus-1 Skills	Movements and actions that the GK can apply in situations when an attacker directly approaches the goal/GK with the aim to score from close distances (e.g., blocking movements or hand/foot reactions for attacking situations from inside the goal box).

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<i>Crosses & Sweeping</i>	Specific actions executed by GKs when defending the space in front to the goal (e.g., dealing with a high cross from the side into the box or dealing with a ‘cut-back’ pass into the penalty area).
<i>Distribution</i>	Passing, throwing, and kicking movements and actions that allow the GK to initiate attacks and support the team in possession of the ball (e.g., passing the ball on ground, side-volleys or long kicks off the ground).
<i>Communication & Organization</i>	The GK’s ability to communicate and socially interact with teammates in the appropriate manner, in order to effectively organize the defence and initiate attacks.

Table 1. Description of GK Actions in goal defence, space defence and the attacking game (adapted from Otte et al., 2020a, p. 328).

In its core, contents presented in Figure 1 above (as initially developed for Oceania Football Confederation in 2019) are implemented into GK coach education in various global football federations. Here, its various layers may best be read from the inside outwards. Following the introduction of the three **GK tasks** and its affiliated *transition moments* (i.e., goal defence in red; space defence in orange; and attacking game in green), the second layer describes various **GK actions** in more detail (see Table 1). These actions include outcome-oriented movements and behaviour that are coupled with the perception of information present in any specific game situations. For example, an attacking cross from the sideline may be received by an attacker inside the box and headed towards the top corner of the goal. Here, the GK would transition from the task of defending the space from a cross to defending the goal (i.e., the GK perceives that it is not feasible to directly intercept the cross and switches to saving a header on goal). Upon perceiving the flight of the crossed ball, the GK may drop back to the goal-line, take a cross-step to dive into the corner and either deflect the ball over the crossbar or catch it with both hands. Notably from a theoretical view, this transition from space defence to goal defence, along with the GK’s outcome-driven perception-action couplings, is constrained by various informational variables, such as ball speed, spin, trajectory and further

individual, task and environmental constraints like pitch conditions, numbers of defenders inside the box, fatigue and game score (see section on GK training and coaching below).

Finally, Figure 1 may be expanded by 1) the key tenet of GKs supporting a team's attacking and defensive play (i.e., the outer, black circle), and 2) Hans Leitert's (2007) ***seven goalkeeping principles*** (i.e., the outer, grey circle in Figure 1). These goalkeeping principles include: 1) *optimal positioning and distance*; 2) *balance*; 3) *ready in time*; 4) *the correct beginning*; 5) *actively towards the ball*; 6) *courage*; and 7) *controlled focus*. All principles aim at cohesively pointing towards "the small detailed disparities between top keepers and average keepers", when analysing, training and developing GKs at any level (Leitert, 2007). Some of these principles (e.g., courage or controlled focus) closely align with other critical mental/psychological GK characteristics found by additional academic work; for example, studies found the importance for elite GKs to encompass traits of *bravery and courage, focus and concentration, personality, presence, confidence, the ability to deal with mistakes and work ethic* (Hughes et al., 2012; Otte et al., 2019a; West, 2018). These mental attributes may further be expanded by cognitive research that investigated GKs' visual gaze and search behavior, anticipation skills and cue utilization (e.g., Savelsbergh, et al., 2002; Dicks et al., 2017; Zhou Peiyong and Inomata, 2012). Notably, to date, much of this research is limited to rather controlled penalty kick situations and a detailed review of this research branch would exceed the scope of this article.

In addition to several of Leitert's (2007) aforementioned technical-tactical goalkeeping principles (e.g., 'optimal positioning'), recent scientific work by Otte and colleagues (2019a, b; 2020a,b) investigated training session structures and methods of football GK-specific training and match warm-ups. While various physical, technical-tactical, and psychological aspects were found to cohesively inform training session designs and warm-ups, one key result concerns the importance of decision-making abilities in goalkeeping. Table 2 represents three

GK decision making forms that were rated critical by interviewed GK experts: i) *technical decision making*; ii) *tactical decision making*; and iii) *technical-tactical decision making*. Despite coaches recognising both tactical and technical areas to work in-synch, experts viewed GKs' abilities to make effective and correct decision as one, and often as the most, important cornerstone of successful goalkeeping at the top professional level (see Otte et al., 2019a, for the full discussion).

GK Decision Making Forms*

(*adopted from Otte, Millar & Klatt, 2019a)

<i>Technical Decision Making</i>	The GK is required to make decisions on which specific movement solutions (or commonly 'techniques') to use in order to achieve an outcome (e.g., saving a close-distance shot at goal).
<i>Tactical Decision Making</i>	The GK understands/ is attuned to information within tactical game situations/free play and their own team's football playing philosophy. Based on this knowledge, the GK is able to tactically respond to these situations (e.g., by communicating with teammates or adjusting one's position and body orientation towards the goal/ball).
<i>Technical-tactical Decision Making</i>	The GK is required to perceive, recognize, and understand relevant information prior to making a decision and coordinating a technical GK action.

Table 2. Description of GK decision making forms (adopted from Otte et al., 2019a, p. 1468).

Transferring theoretical goalkeeping knowledge to applied coaching.

What do the abovementioned insights into goalkeeping demands (physical, technical-tactical and mental/psychological) imply for coaches? Put simply, GK training designs need to integrate a holistic development approach. Of particular interest, for instance, could be the '*four corner player development model*' (see The Football Association, 2020, for a detailed presentation). The widely applied and holistic athlete training approach is used across various sports coaching and coach education contexts on a global scale (e.g., Canada Basketball, 2004; New Zealand Football, 2016). In detail, the four corner model advocates for an integrated and holistic physical, technical-tactical, mental/psychological, and social player development and training approach. In other words, GK development and training should constantly encompass and integrate all four pillars; this, with the aim to mutually challenge the GK's 1) *perception*

of key informational variables within the dynamic game/training environment, 2) utilisation of perceived information to make *decisions* upon GK actions (psychologically and tactically), and 3) to eventually coordinate these *GK actions* (physically, technically, and socially; Otte et al., 2019a). For example, a GK needs to learn to perceive open spaces to distribute the ball into, decide on when and how to distribute the ball into a particular space and finally, communicate with teammates and coordinate the physical kicking movement.

On a different note, the professional game is arguably getting faster and more challenging for both players and GKs. For example, ball passing times by the German senior national team decreased from 2,8s in 2005 to 0.9s in 2014 (BDFL, 2018). While overloading the physical aspect of performance commonly leads to increased strength and physiological responses (e.g., muscle hypertrophy), overloading the psychological aspect of the goalkeeper's performance appears less discussed. Given the reactive nature in numerous goalkeeping situations and increased speed of play, the GK arguably should be challenged (and almost overchallenged) in terms of task complexity, as well as numbers and speed of game-representative decisions made. Specifically, it is argued that overload of these perceptual-cognitive abilities in training can lead to 1) better attuned perception of relevant information; 2) faster, more elaborate and creative decision making and problem solving; and 3) more adaptable GK actions in performance situations (see Otte et al., 2019). In other terms, improved perception of unfolding information can support GKs in piecing together the technical-tactical demands both in defensive and attacking situations.

Finally, and due to the changing perceptual-cognitive and motor demands in modern football, traditional ways of prescribing and coaching (often) idealised movement templates or 'techniques' in isolation are seemingly out-dated these days (Otte et al., 2021). There appears to be a need for the application of more contemporary approaches on skill (acquisition) training and player development. These approaches emphasise nonlinear pedagogical concepts, such as

representative learning design or reality-based learning (see UEFA, 2020), advantages of movement adaptability and the co-design of training programs as a function of staff collaboration and integration (see Otte et al., 2020b, and O’Sullivan et al., 2021, for practical case studies of football youth player and GK development). Specifically, the use of constraints manipulations has found increasing support and application across high-performance sports and football coaches (see Bartlett, 2021, and Chow et al., 2022, for introductions). Closely interlinked, Figure 2 presents an adapted, more GK-specific illustration of Newell’s (1986) model of interacting constraints, including the mutual process of perception and action.

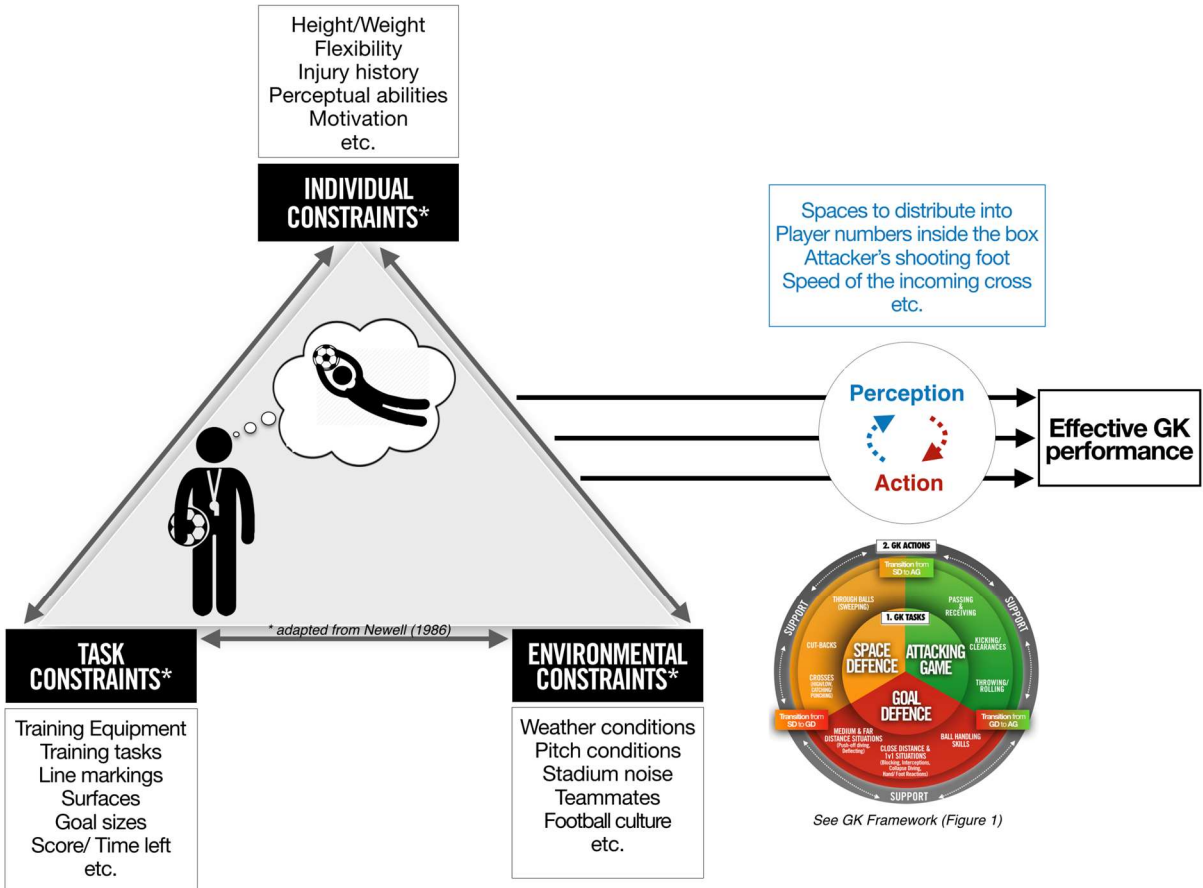


Figure 2. Model of interacting individual, task and environmental constraints on GK performance (adopted from Newell, 1986), including the reciprocal relationship of perception and action.

By considering various individual and environmental constraints, along with manipulating various task constraints in training (see the triangle in Figure 2 on the left for

examples), this constraints-led perspective on learning should allow coaches to form an applied conceptualisation of how skills emerge (O’Sullivan et al., 2021). While understanding the interactions and manipulation of these constraints appears critical for coaches, the holistic development approach should demand for GKs to constantly couple information perception (along with cognition and emotions) with GK-specific actions (see right part in Figure 2). Here, Bernstein’s well-known notion of *repetition without repetition* could provide a fundamental training principle: i.e., by tasking GKs to repeatedly solve game-related problems (e.g., a 2v1 defending situation) in various different ways, these GKs learn to perceive most relevant information (e.g., an attacking player’s dominant shooting foot and touch on the ball). This perception is then coupled with individual movement solutions (e.g., self-organising and coordinating a movement towards blocking a shot or attacking the ball with both hands). In other terms, GKs repeatedly solve a game-problem and find solutions (as opposed to merely rehearsing a technical movement solution in isolation) and thus, learn to adapt their actions in numerous contexts and ways (see Otte et al., 2021, for a practical elaboration). The manipulation of (task) constraints and a holistic, game-representative perspective on learning and development may support coaches with contemporary approaches on facilitating effective and enjoyable training designs. Future research on this gap of transferring theoretical goalkeeping knowledge to applied coaching would be recommended.

Summary

Goalkeeping in modern football demands for these specialised players to be able to master every part of the game in a distinct and complex fashion – from defending the goal to defending the space to initiating attacks by distributing and maintaining possession of the ball. While the physical profile and match activities are demonstrably unique (compared to those of outfield players), the psychological pressures of playing steadily, reliably and minimizing the risk of making mistakes are challenging. These overall demanding GK tasks require for

coaches to consider a holistic approach that cohesively integrates various pillars of technical-tactical, physical, mental/psychological, and social player development. Here, use of game-representative training designs and understanding of constraints manipulations and contemporary skill acquisition theory may aid coaches in effectively facilitating GK development and training.

With the purpose of providing knowledge of current research on various goalkeeping areas, this article aims to inspire future research work on this playing position and enhance coaches' understanding of the positional profile in modern football. This understanding may support future development of individualised, athlete-centred training interventions, coaching approaches and match performance analysis. Concluding this section, we would like to draw attention back to the legendary Sir Bobby Robson and his synthesis of the GK position:

The GK “needs to be sharp and have perfect co-ordination with the ability to make quick decisions when under intense pressure both physically and mentally. [...] He needs to have a ‘sixth sense’.”

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