**Rationale and Aims**

About the continued theorising and objective epistemological approach to perceptual research (Biddle & Tane, 1995), there remains little clarity regarding what information athletic use to direct decision-making in performance settings as a window to transfer from training to performance. The role of perception-action coupling within decision-making in team sports has been discussed at great length (Newell, 1976, 1986; Davids & Araújo, 2010). Adopting some critical actions (Vickers, 2006). The methodology allows us to expand the core, single action-control task-control in the hope of elucidating and to suggest a change in behaviour in the given context of the practitioner (Gold, 1998). Williams, Singer and Paisley, (2004; Vine and Wilson, 2011). However, caution remains in the interpretation of the findings. The question of whether QE becomes increasingly precise (Vickers, 2016), might define the focus towards a specific location or object within 3° of visual angle or less for a minimum of 100ms (Vickers, 2016). It is reasonable to suggest that QE describes the variability in which to examine the relationship between perception and action (Panchuk and Vickers, 2006). A Serendipitous Instrument – Eye Tracking Glasses (SMI-ETG) ocular систем will be employed within an elite-level goalkeeper (Vickers, 2016) will be collected in three different performance trials and compared to QE data collected in a representative simulation. The present trial-training environment will be informed by principles of ecological dynamics as presented in the Environments Framework (Newcombe et al., in preparation).

1. To understand the gaze behaviour of elite goalkeeper in order to determine an optimum approach to training that represents elite gaze patterns and facilitate to competitive performance through the use of ETG Eye Tracking Glasses.
2. Use the QE eye as an objective measure to understand that transfer occurs between training and performance from the means of perceptual experience.

**The Infinite Variable and Beyond**

There is a requirement to view the QE beyond an isolated and intervention approach, for which the QE could become used as a key perceptual tool to measure the transfer of skill from training to competitive performance (Newcomn et al., 2015; Davids & Araújo, 2010). Adopting the design of research practices the study of perception must be extended under a key experimental research principle. Originally introduced by Egon Brunswik’s (1956), representative design drives the dynamic of any experimental task must have some respectability of feedback, and be meaningful to the practitioner.

Adopting a probabilistic functionalist perspective will provide the necessary scope of analysis towards QE behaviour under principles of Ecological Dynamics (Brunswik, 1956; Pinder, 2011). Due to the values of information in complex environments being variable and emergent, precise and training conditions must illustrate a field of affordances that creates opportunities for relative game actions to occur (Brunswik and Ravers, 2014).

This study attempts to view QE under conditions in a variable, in which to replicate the natural psychological conditions of the studied task. Through this, it allows the variability of the QE to be stretched further towards the design of sporting environments that can replicate the visual environment across available simulations (Vickers, 2006).

**Tunnel Vision**

Williams, Jenelle and Davids (2004) discussed how there may be benefit in understanding visual lexical by any of the interacting constraints that shape emergent behavior. Key constraints were posed by Davids and Araújo (2010) in an interesting commentary presented by the authors, they question the QE scope, raising concerns that the QE has become the simple answer in understanding decision making.

A vast amount of the literature has utilised QE as a tool for perceptual training in sport. For example, QE training interventions have been used in an attempt to train the visual search strategies of nonelite within similar tasks used by their expert counterparts. Hiles and Vickers (2003) study demonstrated the potential of QE based training interventions for which significant improvements were noted during both free and simulated and competitive games, this is further supported by Schmid and Lueck (2003) which noted QE with intervention, players for which improvements in gaze durations were noted. Causer, Holmes and Williams (2011) again employed a training intervention to demonstrate the use of QE as a tool for perceptual training, yet there are numerous concerns across the literature. Questions are still raised over the efficacy of QE training interventions, as Casper (2004) suggested in his commentary to Vickers (2010) that there are limited trials and short retention periods across a number of training interventions. It is clear from the literature that the design of research practices the study of perception must be extended under a key experimental research principle, it is worth noting that the trials are related instances of performance, with the tasks often being non representative of the constraints that would occur in the natural task setting (Brunswik, 1956). According to Newcombe et al. (2015) and Holmes and Williams (2011) the two key issues in the field of QE research, understood constraints and design with developing constraint-based representation of spatial environments, and the role of interacting constraints on the design of training interventions. It has demonstrated that subjective perception can be influenced by the role of interacting constraints on the design of training interventions. It has been demonstrated that subjective perception can be influenced by the role of interacting constraints on the design of training interventions. However, this is not without its limitations, the role of interacting constraints on the design of training interventions.

**Proposed Methodology**

A Elite Goalkeepers will use SMi-ETG (Eye Tracking Glasses) in 4 training environments to locate the QE under an emerging number of constraints that create opportunities for action (Newell, 1976, 1986; Davids & Araújo, 2010). The trials will be evaluated via a cootd keg performative match simulation (Tri-V), which will be analysed against different point on the Environment Design Continuum (Newcombe et al., in preparation).

Training environments will be designed according to principles of environment design as described in Newcombe et al. (in review) (Fig 1)

**The Infinite Variable and Beyond**

- **Trial 1: Practice Opposed**
- **Trial 2: Practice Variable**
- **Trial 3: Small-Sided Game**
- **Trial 4: Representative Practice Environment 11 vs 11**

Each Goalkeeper will perform 19 intertemporal actions per training environment over a 6 week period with video footage from the SMi-ETG and an external camera to capture the skilled action will be for the video will be clipped and manually coded (Via SportoacGamewears). Beagaze from text (and VIA analysis tool from Quokka) to establish the start and end of each skill action.

QE duration (Tri 1–3 of 3) be used a valid actions – factorial ANOVA
QE location: Descriptive statistical analysis
Level of fidelity: Mean QE duration (Tri 2 or 3) x Mean QE duration Tri 4 x QE location – factorial ANOVA (Pena and Vickers, 2011)

**Considerations and Critical Questions**

It is worth considering that individual players may possess variability in in movements and not follow optimum patterns for which has usually been the case in perceptual based research (Davids and Araújo, 2010). However, when looking at averaged gaze behaviour across environments, rather than assuming optimum patterns across individuals, we believe that this intra-individual variance does not play an impactful role.

If a trial environment from the continuum is too close to the simulated game (in regards to high variability) then similar patterns will emerge naturally due to the task dynamics. While gaze behaviours may remain near identical in nature of the QE, it may be not optimum for athletes to adhere to the relevant practitioners, not demonstrating learning, but a response to the perceptual dynamics of that given task (Friston, 2010; Brunswik and Ravers, 2014).

The provision of elite sport collaborative research to manage and organise due to the huge temporal and financial constraints imposed on elite sport programme. Researchers reflect that far have demonstrated the difficulties of linking schedules, dealing with changes in staff, injuries, as well as loss of form and cultural supersitions.

**Shhh... We’re talking about the Quiet Eye!**

**A Perceptual Approach to the Transfer of Skill: Quiet Eye as an Insight into Perception-Action Coupling in Elite Football Goalkeepers – Methodological and Feasibility Considerations**

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"Unfortunately, empirical work on learning within the direct perception school appears limited to demonstrating that learning occurs...and theory is little more than a collection of slogans and metaphors" (p. 273) Michael and Beek (1999)