

FRIENDS OF NVT

OFFICIAL NEWSLETTER OF INNEURACTIVE



INTRODUCTION

Welcome to Issue 4, Volume 11 of the Friends of NeuroVisual Training Newsletter!

Our feature article, “Visual Search Strategies and Game Knowledge in Junior Australian Rules Football Players: Testing Potential in Talent Identification and Development,” reviews research published in *Frontiers in Psychology*. This study examines the eye movements and decision-making skills of youth Australian Rules Football players, highlighting the potential of eye tracking as a tool for identifying sporting talent. Although the study did not include NVT parameters, it suggests that incorporating NVT could enhance these skills, providing new avenues for talent development and performance improvement.

The ‘How To’ section of this newsletter presents advanced techniques for Hart Chart Training. Here, we provide detailed instructions on innovative methods to improve saccadic eye movements and coordinated head, eye, and neck movements. These exercises are designed to enhance scanning efficiency and reaction speed, offering valuable strategies for therapists, educators, and individuals aiming to boost their cognitive toolkit.

Join us as we dive deep into the science and practical applications of visual search strategies and NVT, equipping our community with the knowledge and skills to transform cognitive challenges into opportunities for growth. Together, let's continue to push the boundaries of what's possible in cognitive health and athletic performance.

WHAT'S IN OUR LATEST ISSUE

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Article Review: Visual Search Strategies and Game Knowledge in Junior Australian Rules Football Players

In this article we review the recent article entitled, Visual Search Strategies and game knowledge in junior Australian rules football players: testing potential in talent identification and development.

This article examined the scanning and decision - making skills of youth Australian Rules Football (ARF) players ages under 16 and under 14. They used eye tracking capabilities with Tobii glasses and had the players watch game tape and make decisions. Speed of decision making, and eye fixations were the main dependent variables discussed.

It appeared that none of the players had general or sports specific NeuroVisual Training (NVT). No NVT parameters were tested or reported. A key conclusion from the study is, "Examining eye movements in relation to decision – making and game knowledge is a viable tool for talent identification." In part they are saying that assessing eye tracking and / by extension ocular motor performance, one may be better able to identify talent in the sports performance space. They are implying that NeuroVisual performance parameters may correlate to performance ability on the field. Of extreme importance of this conclusion, and for NVT practitioners, the authors leave open the concept that NVT and purposeful practice to improve such skills may improve performance as well.

They acknowledged that, "it is the challenge of assessing junior athletes' game knowledge and decision making through a more objective measure which this research aims to address." The overall goal of the study was to help better understand the assessment of decision making and game knowledge for these athletes. They felt that visual search is a highly relevant tool and integral to this study as it relates to talent identification and development. Faster decision making has been associated with higher caliber of play in skilled players. This study was somewhat paradigm shifting looking at U16 and U14 players. They speculated that the identification of skill in these youths could guide future development, but they did not speculate on NVT being a means for performance enhancement. The study appears to have been designed to study the relationship between eye movement behaviors and decision making in youth players. Note, decision making was not done on the field but during the testing.

The hypothesis was, "that skilled decision-makers would demonstrate more efficient eye – movement behaviors incorporating fewer fixations on redundant information, and more fixations of shorter duration on relevant cues when compared to less skilled decision - makers."

In the methods and data analysis it appears that skilled players were categorized based on response accuracy during the test and not based on skills on the field. This methodology seems to require that doing well on the task put them into the category of high performer and then the high performers were compared to visual search strategies. There remains the possibility that better visual search strategies contributes to better responses. In other words, the two results could be constitutive. A correlation to on-field performance proficiency would be beneficial here.

They characterized the skilled groups having fewer fixations and shorter fixations durations than the less skilled groups in both age groups. Also, skilled participants had greater fixations on viable options, suggesting greater efficiency of the visual searches. They suggest that tactical decision making in elite sporting completions should receive more focus concerning recruiting and development of youth participants.

They concluded that they were "able to show a viable method for initial screening to identify the key stable visual search behaviors used by junior Australian Rules football player for declarative game knowledge and decision – making".

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This study is a focused foray into the role of ocular motor performance concerning performance proficiency as it might relate to NVT. The paper does not address NVT and it does not test NVT based parameters (outside the Tobii glasses tracking). Nor does the study address in game performance proficiency. Although it implies that skills related to NVT may be important to ARF players and talent identification in youth players.

All quotes taken from the source article.

Reference:

Lael Kasement et al., *Frontiers in Psychology*, 2024, DOI 10.3389/fpsyg.2024.1356160.

How To: Over the Shoulder and Quick Look Hart Charts

Hart charts are a fundamental component to our NVT programs and have been discussed in several issues of this newsletter (V5I2, V5I4, V8I2, V8I3). Hart charts can be used for horizontal, vertical and diagonal scanning, near far and have a cognitive overlay with word finding (I8V3). Often the instructions are to encourage saccadic eye movements to perform the task. In this article we will present some methods where the head, eyes and neck work together to perform the Hart chart activity. Head movement can be important in numerous crafts where the person needs to check relative extremes to see what is going on. For example, crossing the road while walking or checking traffic in the left and right directions will require head and eyes to move and pick up images.

For this how to we will give instructions on two methods to do the Hart Chart activity. You, the NVT practitioner can pick and choose which and when to use these methods.

First, consider doing 180° head turns where the client is centered between two Hart Charts. This can be done in a hall or in a corner. Please have the distance an appropriate distance for your training, we recommend greater than 10 feet in either direction. Thus, you need 20 feet of space when practicable.

With the client centered between the two Hart charts he / she must look left and right calling out the alphanumeric as is customary for NVT training. Have the person scan left and right as fast as they can calling out the alphanumeric throughout. Consider the needs of your client, by starting with a 30 second program to get them used to the rapid head turning and progress to 1 minute as appropriate. Score the run in number of loops per minute or whatever run duration you are using. You can overlay the complexity of this activity in the usual ways by adding rhythmic stabilization, strobe glasses, pinhole glasses as well as word finding (V1I8, V4I2, V5I2, V5I4, V5I5, V8I2, V8I3). You can also expand the complexity of this activity with 3- and 4-point Hart charts and 3- and 4- point word finding Hart charts.

There are multiple crafts and activities where looking behind you may be important for a competitive advantage in sports. Consider baseball fielders who may be running down a fly ball and must look at a wall and the ball in the air. Or a defensive back on the football field who may need to track a ball passed from the quarterback and track where his adversary is on the field. To assist in training proficiency here we can use over the shoulder Hart charts.

The set up for the Hart charts where the goal for the client is to look behind them as part of the exercise starts with the Hart charts in their normal location for scanning Hart charts. For example, the Hart charts are eye level, 10 feet apart with the client 10 feet away and centered between the two Hart charts. Have the client with their back to the Hart charts. He / she is instructed to turn and twist to see the Hart charts that are behind them. Looking over the left shoulder to see and read the left Hart chart and looking over the right shoulder to see and read the right Hart chart. We generally recommend starting with a 30 second task and ensure that this does not cause dizziness and progress to 1 minute. Score their performance in loops per minute or loops per run time. We can progress this in the usual ways as referenced above. We can also add a third and fourth Hart chart. Consider where the client is looking behind them at two different Hart charts and a third Hart chart straight in front of them. Looking at the in front of them Hart chart could be analogous to a baseball fielder checking the wall to avoid injury. We try to counsel the client on why we do these activities and how it may be related to their activities.

In this how to segment we present a couple of methods where you the NVT practitioner can progress and customize your Hart training of your clients.

Announcements

As always, please also check out our store, <http://www.inneuractive.com/shop> ! We regularly add new products and are excited for the upcoming launch of our NVT warmup panels, and the Speed of Accommodation and Processing software platform.

We encourage our Friends of NeuroVisual Training community to engage with these enriching resources. Your commitment to staying updated fuels the advancement of our field, and for that, we are sincerely appreciative.

***Disclaimer:** Nothing in this communication should be construed as a practice of medicine, an endorsement, or political action. The opinions are the opinions of the authors.*