

# The relationship between existing measures of visual function and swimming performance

Rianne Ravensbergen, David Mann

Department of Human Movement Sciences, VU Amsterdam



LOOKING FURTHER

# INTRODUCTION

## CURRENT STATUS OF VI CLASSIFICATION

	Visual acuity (logMAR)	Visual field
S13	1.4 – 1.0	< 20 degrees radius
S12	2.6 - 1.5	< 5 degrees radius
S11	(No) light perception	Cannot be B1 with only loss of visual field



IPC CLASSIFICATION CODE  
AND INTERNATIONAL STANDARDS

NOVEMBER 2007



**Sport-specific**

**Evidence-based**

# INTRODUCTION

## AIM OF THIS PROJECT



Classification Research Partner

Investigate the relationship between *current* measures of visual function and swimming performance

Test the study design for a future project investigating the impairment-performance relationship using *new/additional* measures of visual function

# WHAT DID WE DO?



## Measures of visual function:

*classification data*

Visual acuity (logMAR)

Visual field (degrees)



## Measures of performance:

*video footage*

Race time

Start, turn, and finish times

Stroke rate/length

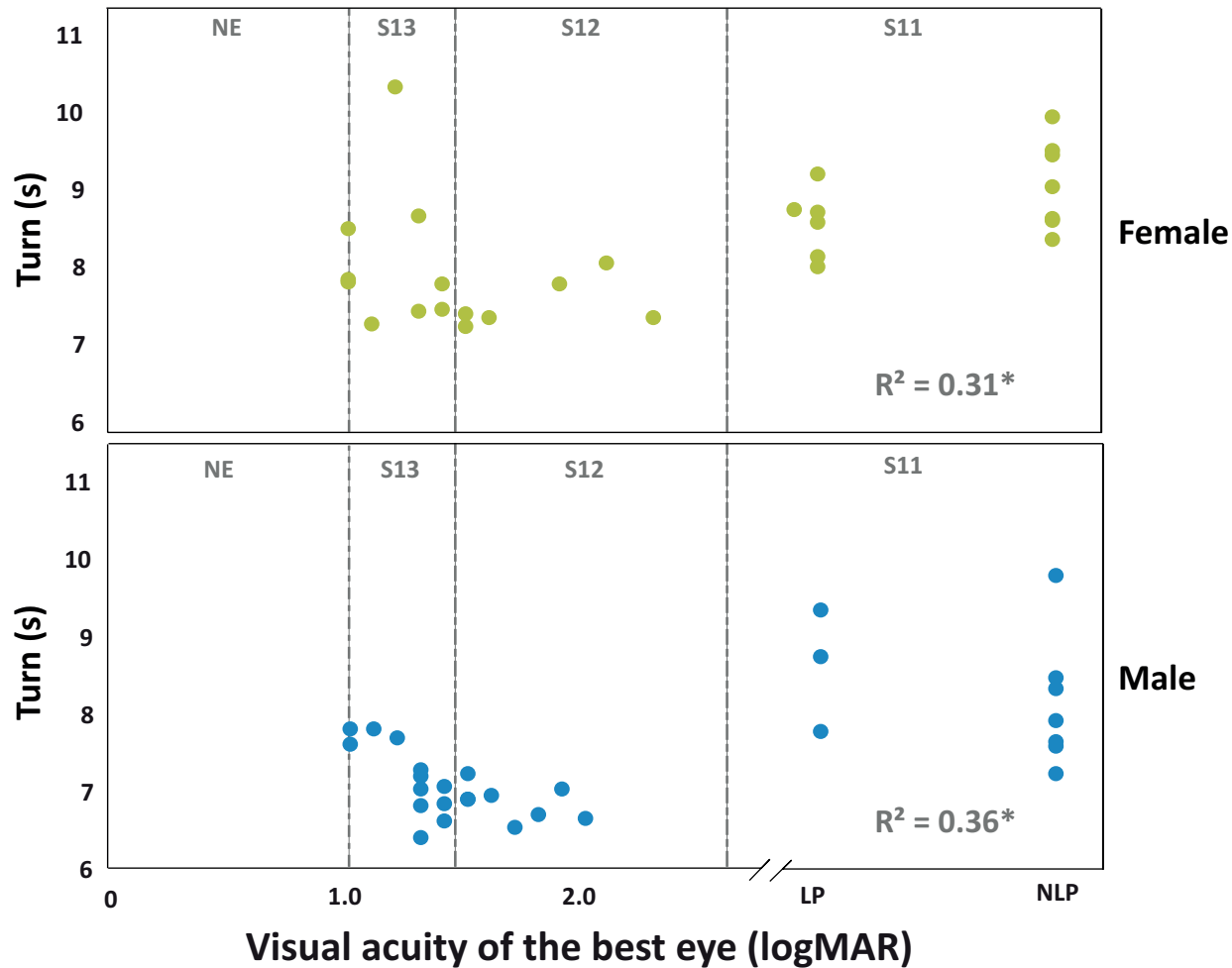
# VI AFFECTS OVERALL PERFORMANCE



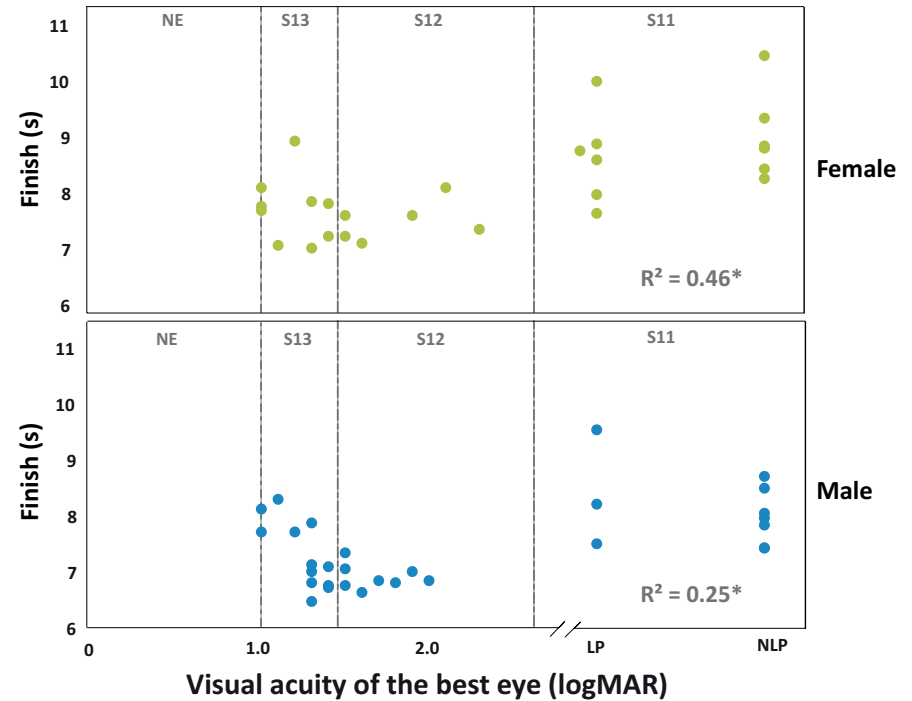
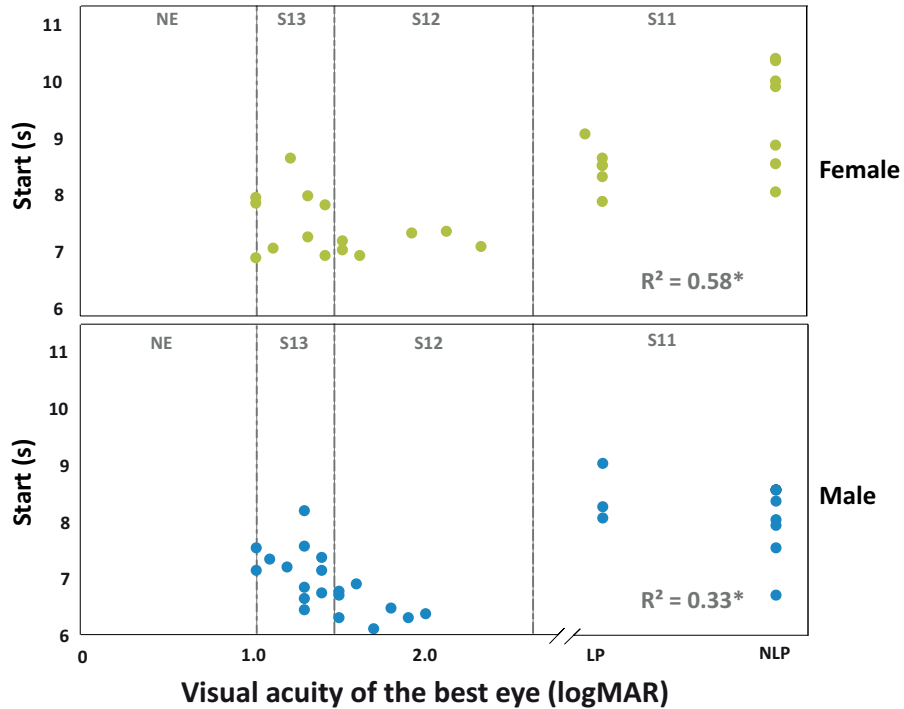
- Race time is associated with visual acuity
- *Range 1.0 – 2.6 logMAR*  
No correlation visual acuity and race time
- Overall performance worse in current S11 compared to S13-S12

# FINDINGS

## VI AFFECTS TURN TIME

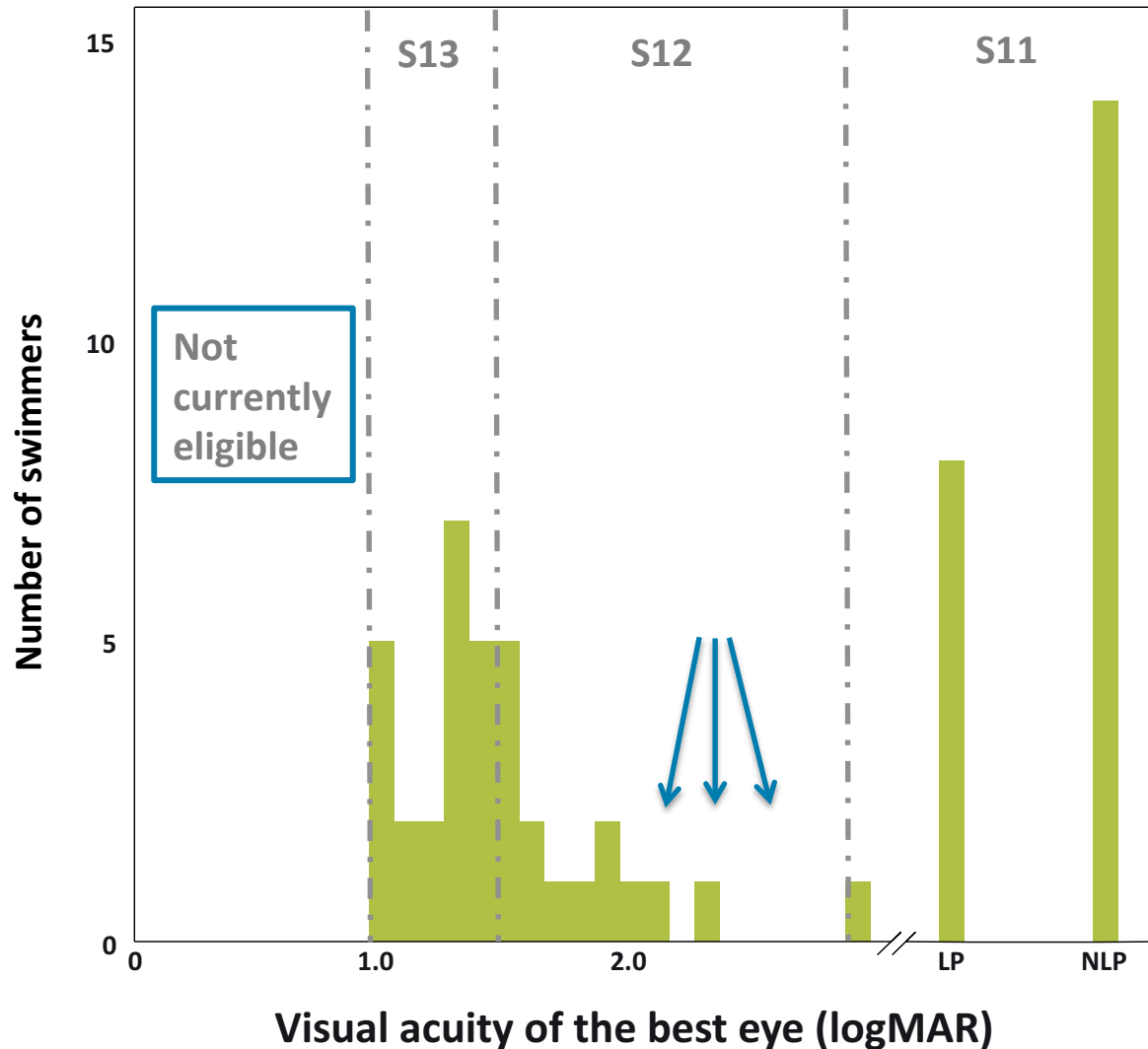


## VI ALSO AFFECTS START AND FINISH TIMES



## WHAT HAVE WE LEARNED?

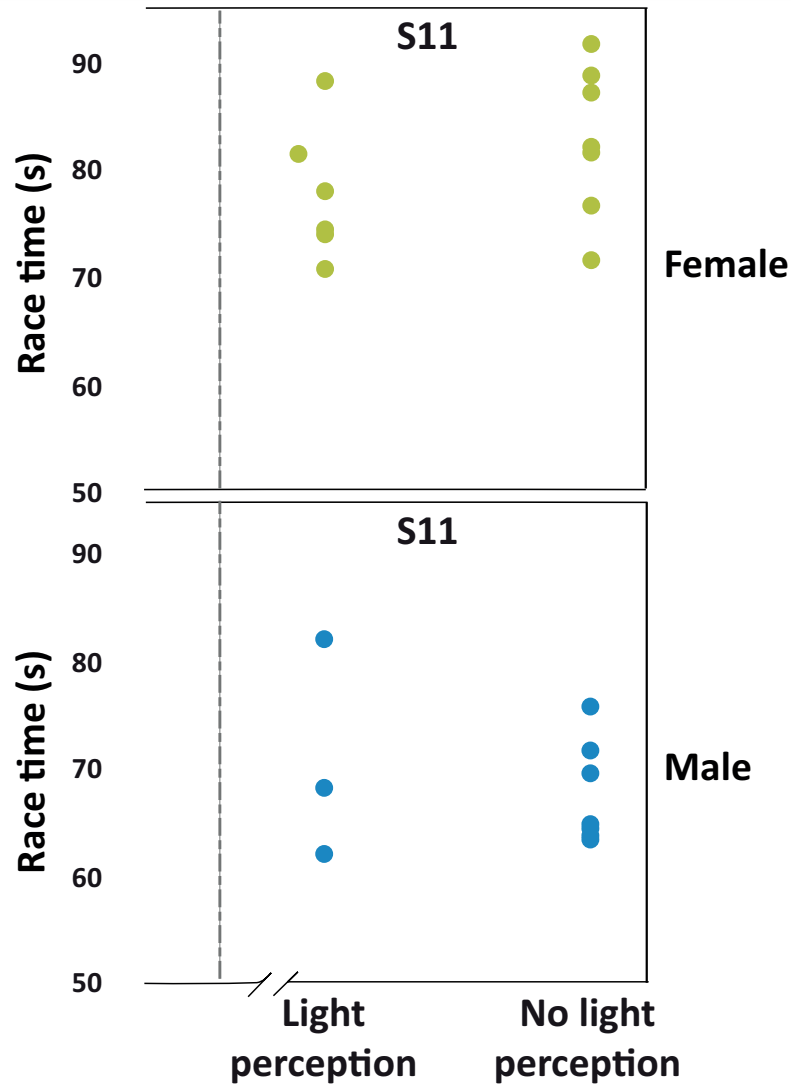
# SAMPLE IS DETERMINED BY CURRENT CLASSIFICATION





# WHAT HAVE WE LEARNED?

## IMPACT OF SPORT RULES ON THE RELATIONSHIP

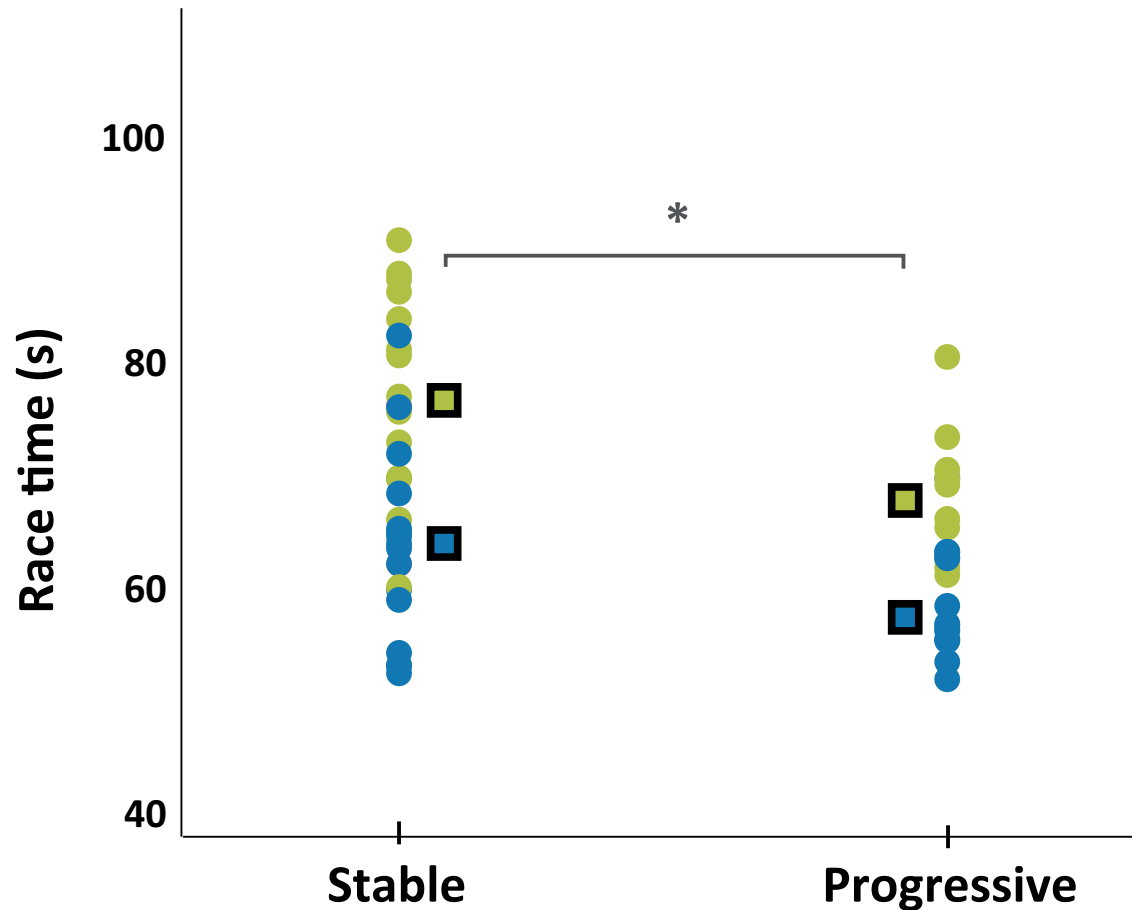


Blindfold or blackened goggles



## WHAT HAVE WE LEARNED?

# EFFECTS OF HOW THE IMPAIRMENT DEVELOPED



# MAIN MESSAGES

There is a relationship between visual acuity and swimming performance, but the current classes don't represent a clear distinction in performance

## Issues to address in the design of the future study:

- Recruit athletes with widest range of VI
- Record information on the development of the impairment

**THANK YOU!**

All athletes who participated!

IPC Swimming staff

Greg Vice – Isabel Rossignoli



@VI\_Amsterdam



Classification Research Partner

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**LOOKING FURTHER**