

Focus Groups- The impact of colour vision deficiency on participation and progression in sport

Dr Adam Bibbey, Daisy Lee, Dr Stuart Whigham
(abibbey@brookes.ac.uk, daisylee@brookes.ac.uk, swhigham@brookes.ac.uk)

Introduction

Colour vision deficiency (CVD or colour blindness) can pose problems for individuals in sport and life generally. Due to the relatively high proportion of individuals who have CVD (approximately 1 in 12 men and 1 in 200 women), it stands to reason that this is impacting more lives than perhaps is realised. The purpose of this summary is to provide an overview of how CVD can affect people's day-to-day lives, and, in both sports' participation and spectating.

Two focus group interviews with 8 individuals with CVD were conducted to discuss the impact of CVD both in and out of sport, the provision provided and future suggestions for CVD support. The general and sport-specific themes are outlined below.

GENERAL THEMES:	SPORT-SPECIFIC THEMES:
<p>Negative impact on career plans</p> <p><i>Exclusion for specific jobs</i></p> <p><i>Impact within employment</i></p>	<p>Negative impact on sports participation</p> <p><i>Visual perception during performance – identifying balls / objects</i></p> <p><i>Visual perception during performance – court and pitch markings</i></p> <p><i>Visual perception during performance – identifying kits and bibs</i></p> <p><i>Visual perception during performance – identifying team-mates - reaction / decision-making time</i></p> <p><i>Visual perception during performance – position-specific impacts</i></p> <p><i>Sporting success limited by CVD</i></p> <p><i>Sporting preferences shaped by CVD</i></p> <p><i>Refereeing and officiating with CVD</i></p>
<p>Negative impact on education</p> <p><i>Interpretation of data</i></p> <p><i>General</i></p>	<p>Dealing with CVD in sports participation</p> <p><i>Coping strategies for CVD challenges in sport</i></p> <p><i>Confidence to raise CVD challenges</i></p>

Negative impact on personal experiences	Negative impact on sports spectating <i>Kit clashes</i> <i>Kit clashes – commercial priorities over CVD</i> <i>Sports spectating - other</i>
Need for personal strategies to mitigate CVD impact <i>Personal coping strategies</i> <i>Seeking guidance from others</i>	Practices and recommendations for improvements re CVD <i>Appropriate equipment</i> <i>Raising awareness</i> <i>Raising awareness – but limited long-term impact!</i> <i>Formalisation of CVD as disability/impairment within regulations</i>
Reactions from others to CVD <i>Lack of understanding</i> <i>Using humour and colour tests</i>	

General Themes

CVD may have a negative impact on individuals' career plans. With some noting that individuals have been excluded from specific occupations at very young ages due to not being able to pass colour vision tests “...I **actually wanted to be a pilot... I failed at the first hurdle**” (Focus Group 2, LT).

CVD difficulties not only affect career choice but can also have a negative impact on education. “**In terms of education, I’ve always struggled with the red laser pointer... if they’re trying to point out a particular graph, or anything like that... I have to try and**

figure out which aspect they're actually looking at." (Focus Group 2, AB), suggesting that CVD may pose problems for interpretation of data.

The negative impact that CVD has on personal experience must also be touched upon, with CVD interfering with everyday tasks. **"I've got the broadband discs... when you switch them on, they're purple, I think. You have to wait until they go blue. And I can't tell when purple goes blue, it just looks the same"** (Focus Group 2, JF). Suggesting that an individual with CVD would have to employ coping strategies to deal with this.

Therefore, practices and recommendations regarding CVD need to be improved, as many still have **"...a lack of awareness around it, or they think it's not really a problem"** (Focus Group 1, EA), when something as seemingly simple as setting up broadband causes problems.

As such choosing appropriate equipment, raising awareness and formalisation of CVD as a disability or impairment within regulations should be considered. Perhaps by using a **"...tick box when you have teams and they're doing a registration just to say... are you colour-blind and is it something that we need to be aware of?"** (Focus Group 1, NB).

These practices and recommendations are even more important when considering reactions from others to CVD, where they may use humour and colour tests. **"And the person on the other end of the phone is dying with laughter that I've had to go and ask what colour, the thing is"** (Focus Group 2, DR).

Sport Specific Themes

These struggles with CVD were also apparent in sport specifically, with problems with distinguishing between colours posing problems for visual perception during sports performance and identification of balls or objects, with one participant identifying the difficulties of playing snooker **"The amount of times I would pot the brown ball. Because I didn't realise it was brown"** (Focus Group 2, DR). The difficulties of identifying balls and objects through colour was also apparent when identifying football teammates or the opposition in kits and bibs. **"...when they're moving around it it all becomes quite blurred... as soon as you start playing it's like everyone's in the same... sort of weird colour."** (Focus Group 1, NB). Consequently, this identifies that CVD can have a negative impact on sports participation.

In the same vein, dealing with CVD in sports participation **"you cope... you get on with it... you compensate, you look at socks, or shirt, or the er shorts if necessary."** (Focus Group 2, MG). This all points towards those with CVD employing coping strategies in sports participation, emphasising the importance of individuals to have the confidence to raise CVD challenges **"... when I started to sort of make first team games and the importance of the performance was more important than sort of not wanting to look out of place"** (Focus Group 1, NB).

CVD not only poses problems for participation in sport but for spectators too. **"Days of real frustration... Ireland-Wales rugby. Absolute lunacy. White shorts, same tops"** (Focus Group 1, MG). This links with the need for either seeking guidance from others or employing

personal strategies to mitigate CVD impact by perhaps finding **“really isolated differences... but it’s just more strain, I think more mental processes pick out colours that other people will just recognise instantly”** (Focus Group 1, NB). This is indicative of those with CVD employing more cognitive effort to distinguish between colours, compared to those with normal colour vision.

Conclusion

In conclusion, no one person's CVD, or experience of CVD is the same. However, it is evident that it can negatively impact their day-to-day lives and experiences of sport either through, participation, coaching or spectating. Therefore, it is recommended that awareness of CVD should be raised, so that those with CVD have the confidence to raise their challenges with CVD, ask for help if needed and try to enjoy the same unimpeded identification of different kit and equipment that those with normal colour vision have.

If you would like to help develop our knowledge of, impact and provision for CVD then the questionnaire can be accessed here:

<https://forms.gle/ydp59iwLJDbFaNnq5>