

## Central Lancashire Online Knowledge (CLoK)

Title	The exploration of body-worn video to accelerate the decision-making skills of police officers within an experiential learning environment
Type	Article
URL	<a href="https://clock.uclan.ac.uk/29139/">https://clock.uclan.ac.uk/29139/</a>
DOI	##doi##
Date	2018
Citation	Richards, Pamela orcid iconORCID: 0000-0003-4242-981X, Roberts, D., Britton, M., and Roberts, N. (2018) The exploration of body-worn video to accelerate the decision-making skills of police officers within an experiential learning environment. Policing: A Journal of Policy and Practice, 12 (1). pp. 43-49. ISSN 1752-4512
Creators	Richards, Pamela, Roberts, D., Britton, M., and Roberts, N.

It is advisable to refer to the publisher's version if you intend to cite from the work. ##doi##

For information about Research at UCLan please go to <http://www.uclan.ac.uk/research/>

All outputs in CLoK are protected by Intellectual Property Rights law, including Copyright law. Copyright, IPR and Moral Rights for the works on this site are retained by the individual authors and/or other copyright owners. Terms and conditions for use of this material are defined in the <http://clock.uclan.ac.uk/policies/>

1 **The exploration of Body-Worn Video to accelerate the decision making skills of Police**  
2 **Officers within an experiential learning environment.**

3  
4  
5  
6 *Pam Richards<sup>1</sup>, Professor Debbie Roberts<sup>2</sup> Inspector Mark Britton<sup>3</sup> and Nathan Roberts<sup>1</sup>*

7 **1. Department of Sport and Exercise Science**  
8 **Glyndŵr University, UK**

9  
10 **2. Bangor University, School of Healthcare Sciences, Archimedes Centre,**  
11 **Wrexham, UK.**

12  
13 **3. Isle of Man Police Constabulary, Isle of Man**  
14

15  
16 Date of 28<sup>th</sup> October 2016 [resubmitted 11<sup>th</sup> December 2016; 10<sup>th</sup> February 2017]

17  
18  
19 Correspondence concerning this article should be addressed to:

20 Pam Richards

21 Glyndwr University

22 Department of Sport and Exercise Science

23 Plas Coch Campus

24 Mold Road

25 Wrexham, LL12 2AW

26 Phone: +44 (0) 1978 365367

27 Mobile: 07950909229

28 Email: [pam.richards@me.com](mailto:pam.richards@me.com)

33

## Abstract

34 Previous research has highlighted benefits of Body-Worn Video (BWV) to support the work  
35 of police officers. The daily demands of policing requires officers to make highly  
36 pressurised decisions (with associated rapid action) in unpredictable changing environments.  
37 It is important that new officers learn techniques of decision making in a safe and controlled  
38 way, which minimises the risk and harm to all parties whilst at the same time facilitating  
39 effective learning. Whilst the benefits of experiential and immersive learning characterised by  
40 active participation have long been used in related professional disciplines, the application to  
41 police education has been under explored. BWV can be used to identify decision making  
42 cues from the environment and nurture pattern recognition, essential to the development of  
43 mental models within the officer's decision making process. The paper will therefore explore  
44 the application of BWV in the context of experiential immersive learning to accelerate police  
45 officers decision making.

46

47 **Keywords:** Body Worn Video cameras, decision making, immersive learning  
48 environments, training, reflective practice;

49

50

## 51 **Introduction**

52 Since 2012 there has been a surge of interest into the use and application of Body Worn  
53 Video (BWV) cameras into the context of modern policing (Lum, Koper, Merola, Scherer &  
54 Reioux 2015). The introduction of such sophisticated technological advancements combined  
55 with extensive media interest (Ariel, Farrar & Sutherland, 2015) has therefore intensified the  
56 deliberations surrounding BWV and the role they can play in influencing the public  
57 perception of the police and other emergency services (Culhane, Bouman & Schweitzer 2016;  
58 masonadvisory, 2015). According to Custers and Vergow (2015) there is very little robust  
59 evidence regarding the effectiveness of using technologies in policing; as very few evaluative  
60 studies are being embarked on. However, body worn cameras are associated with  
61 “instruments for accountability and an effective way of reducing violence, discrimination or  
62 corruption” (Coudert, Butin and Le Métayer 2015: 749). Whilst some authors highlight the  
63 potential for body worn cameras to reduce the use of force and limit abuse (Ariel, Farrar and  
64 Sutherland 2015), reduce the numbers of stop and search and make subsequent arrests (Ready  
65 and Young 2015) and may result in a greater willingness amongst the public to report crime  
66 (Ariel 2016); through a range of studies all conducted in the United States of America. Other  
67 writers (Grossmith, Owens, Finn, Mann, Davie & Baika 2015) found that compliance with  
68 activating body worn cameras by officers was relatively poor, and was associated with  
69 increased likelihood (Grossmith, et al, 2015) of officers to arrest; and seemingly no impact in  
70 terms of increased incidence of resisting arrest (Katz et al 2015). Furthermore, Rieken (2013)  
71 asserts that officers may lose the discretion that comes as part of interpreting a situation  
72 resulting in mechanistic performance. Whilst these studies are important, education and  
73 training of officer recruits is not the main aim of this body of work indicating the need for  
74 further focused research.

75 To date the relevance and impact of BWV has not been fully considered and realised within  
76 the police training environment. However, experience from members of the research team

77 recognises that certain aspects of synthetically created environments have been in existence  
78 for some time and have been successfully used in other contexts. For examples HYDRA  
79 suites for Senior Investigating Officers training and Simunition simulators are used  
80 predominantly with firearms training. Although these environments are valuable they are  
81 designed around the creation of simulated environments and they do not have the interactive  
82 elements of the artificial intelligent platforms. Research on integrating BWV has only been  
83 tentatively explored with two RCT's (Owens et al. 2015; Grossmith et al. 2015) based in the  
84 UK, highlighting some potential for continuing professional development when officers have  
85 access to BWV footage. Within these two trials the pedagogical underpinning of the  
86 mechanism by which such development takes place is sketchy. Currently within police  
87 training, the emphasis of the use of BWV has focused on the capture and presentation of  
88 evidence in court cases.

89 While the emphasis of discussions surrounding BWV has focused on increasing the  
90 accountability of officers in response to meeting operational demands, other perceived  
91 benefits have received less attention. It has been recognised that BWV can provide the  
92 additional operational benefits (Grossmith et al. 2015) and facilitate the gathering of evidence  
93 through the automated recording of incidences in which officers attend; resulting in a  
94 reduction of police use of force (Ariel et al, 2015). In a guidance document Goodall (2007)  
95 suggests that in some cases the footage garnered through body worn cameras can facilitate the  
96 support of reluctant witnesses in domestic abuse cases. Although a more recent randomised  
97 controlled trial indicated increasing proportions of detecting domestic violence but no impact  
98 on arrest rates and subsequent sentencing (Owens et al. 2015). Although the complexity of  
99 integrating BWV into the strategic and organisational structure of police forces is  
100 multifaceted and still very much in its infancy, limited attention has been directed towards the  
101 benefit of using BWV in a training environment with the specific aim of helping to accelerate  
102 the decision making capabilities of police officers. White (2014) points out that examples of

103 body worn cameras in providing opportunities for police training remain largely anecdotal  
104 and untested. Although, Goodall (2007) provides some advice outlining the training officers  
105 require, regarding technical and practical aspects of using the equipment; he does not go on to  
106 consider how body worn camera footage could be used to enhance officer performance;  
107 suggesting that there may be a subconscious improvement in officer awareness when they  
108 view their own practice (Goodall 2007). The capturing of officers decision making in training  
109 situations from the first person's perspective, provides a unique opportunity for officers to  
110 engage with experiential learning in a safe and controlled environment. This paper explores  
111 the integration of BWV cameras into police training environments to accelerate the  
112 development of naturalistic decision making skills in officers. The paper therefore begins by  
113 presenting an overview of naturalistic decision making and the challenges faced by officers as  
114 they undertake their role in an unpredictable, highly pressurised environment which is  
115 continually changing. For the purpose of this paper naturalistic decision making is the term  
116 used to outline the investigation of experts in dynamic environments which are uncertain, and  
117 are continually changing (Klein, 2008). Such environments are complex and are  
118 characterised as containing ill structured problems; shifting, or competing goals; multiple  
119 event-feedback loops; time constraints; high stakes; multiple players, organisational norms  
120 and goals that must be balanced against the decision-maker's personal choice (Richards et al,  
121 2009). Such characteristics typify the challenging environment of modern day policing. The  
122 paper then explores how BWV can be integrated into the training environment of officers,  
123 whereby key models and other mechanisms used to support police decision making (College  
124 of Policing National Decision Making Model, 2013 and THRIVE) can be embedded into a  
125 naturalistic decision-making framework to accelerate the development of decision making  
126 skills in officers and new recruits. The paper will then briefly explore how BWV can be  
127 combined with other technological advancements (oculus rift, virtual dome environments etc)  
128 to create an active experiential immersive learning environment, enabling officers to develop

129 associations between cognitive decision making skills and rapid physical actions in a safe and  
130 harm free setting. It is envisaged the paper will open discussion as to how policing  
131 practitioners and researchers can design safe and controlled training environments which  
132 maximise the transfer of learning to real life situations.

133

### 134 **Naturalistic Decision Making Skills and the Police Officer**

135 This commentary paper proposes that the nature of decision making performed by police  
136 officers lends itself to the Naturalistic Decision Making paradigm, where decisions are  
137 undertaken in highly pressurised, complex and unpredictable circumstances, where time is a  
138 key determinant (Klein, 2008). For officers, such environments also include the added  
139 complexity of involving multiple individuals. Decision making processes in such a dynamic  
140 and continually changing environment requires the integration of perceptual skills and the  
141 considerations of situational factors (Richards, Collins & Mascarenhas, 2016). The design  
142 and development of training environments therefore needs to include the development of cue  
143 driven perceptual skills relating to the real world context in which the officers may find  
144 themselves. Developing the perceptual cues of officers in isolation to the situation could  
145 result in the incorrect decision being made when training is transferred to real world settings.

146 Research from several domains, sport being one, has enhanced our understanding of decision  
147 making processes in highly pressurised situations (Starkes & Ericson, 2003; Williams, 2009;  
148 cf. Bar-Eli, Plessner, & Raab, 2011; Richards, Collins, & Mascarenhas, 2012). Richards et al  
149 (2016) proposed two interconnected models within one framework which addresses the  
150 development of decision making skills in highly dynamic and pressurised environments.  
151 Although originally designed for the development of decision making skills in elite sport the  
152 framework is being explored in the context of developing decision making skills in police  
153 recruits on the Isle of Man. Model 1 in the empirically tested framework (see Richards et al,

154 2016 for review) outlines how important information relevant to real world contexts can be  
155 pedagogically layered. This first model integrates the individual's knowledge, situational  
156 factors and the context of the setting in which the individual is making the decision. The  
157 second part of the framework illustrates how integrating reflective (slow deliberation) training  
158 environments within scenario based settings (Richards et al, 2012) can result in the facilitation  
159 of accelerated decision making skills, through the process of layering the information. There  
160 has been a considerable body of research illustrating that slow deliberate learning which  
161 occurs in an experiential scenario based video environment can accelerate the decision  
162 making skills in highly pressurised naturalistic field settings (Richards et al, 2009; 2012;  
163 Merola & Richards, 2010; Bates & Richards, 2011 and Richards, Penrose & Turner, 2015).  
164 The slow deliberate video based learning environment empowers individuals to construct  
165 specific mental models in the context of their own performance. Within the mechanism  
166 advocated here, the beginner or less experienced recruit can learn from and have access to the  
167 mental model of the more experienced officer as they both watch footage of a situation  
168 together.

169 Through the observation of video recorded from BWV officers (individual officers or a  
170 specialist team of officers) it is proposed that officers can engage in deliberate, structured  
171 discussions. Such engagement empowers the officers (individually or collectively as a team)  
172 to identify key features and important aspects of the clip, which results in the formulation of  
173 individual or shared mental models (Richards et al, 2012; Richards et al, 2016). Westbrook  
174 (2006) highlighted that mental models are only valuable to the individuals who construct  
175 them; indicating that everyone is required to construct their own mental model. Focused  
176 discussion between individuals can therefore make mental models accessible resulting in  
177 more effective engagement when similar situations arise in the future (cf. Mascarenhas,  
178 Collins, Mortimer, & Morris, 2005). The connection between the empowered slow deliberate  
179 learning environment and the applied real world context (where decision are made in real life

180 situations) is evident in the model through an interacting pair of feed-forward and feedback  
181 mechanisms (Richards et al, 2016). Feedback discussion features aspects of what was  
182 completed well; whereas feedforward discussions focus on what needs to be incorporated into  
183 future actions if a similar situation arises.

184 The authors of this paper therefore proposed that footage captured from BWV could be  
185 integrated within the decision framework proposed by Richards et al (2016) enabling training  
186 officers to apply specific police decision making models (THRIVE and NDM ) to enhance the  
187 decision making skills of officers when on patrol.

188

## 189 **Developing a video based learning environment to facilitate Decision Making Skills in** 190 **Police Officers**

191 Effective teaching should enable students to assimilate new knowledge into existing cognitive  
192 structures (Andrews & Roberts, 2003). Simulated or immersive learning environments enable  
193 students to do so through active participation. Such simulated immersive learning  
194 environments are being used in a range of associated professional disciplines such as medical  
195 and nurse education to enable students to observe, rehearse and practise in an approximation  
196 of the real world. Through immersion in scenario based learning encounters, students are  
197 enabled to draw on all of their senses to facilitate decision-making in real time (Roberts &  
198 Roberts, 2014). Typically simulation features active participation by the learner followed by  
199 structured de-briefing with an expert or skilled facilitator where meaning and sense making  
200 can be achieved.

201 The process of sense making facilitates the officer moving beyond the identification and  
202 comprehension of environmental cues which are being discussed and the trainee officer is  
203 encouraged to *frame* or comprehend the cue in relation to the situation. Sense making  
204 therefore would facilitate the trainee officer establishing connections and associations

205 between environmental cues. Such an empowered, slow deliberate process of sense making  
206 results in the development of the individual's own mental model or internalised plan  
207 (Richards et al, 2012; 2012), which in turn can be used to inform and shape actions in future  
208 situations (Bates & Richards, 2011).

209 Whilst active participation in a learning environment is important; there is a growing  
210 recognition that individuals can also learn vicariously through the experiences of others; being  
211 able to listen to experts as they discuss a new topic, enables students to learn through such  
212 active discussion (Roberts, 2010). (Although it is recognised that this is often dependent on  
213 the skills of the teacher in facilitating learning.) Utilising BWV footage captured either  
214 through everyday work or through judiciously selected and recreated simulated scenarios  
215 ensures that the stimulus for learning is rooted in the real world of policing, where the  
216 knowledge on which professionals draw is broad, deep and multi-faceted; moreover, the  
217 problems which professionals face are not straightforward, rather they are complex and messy  
218 (Schon, 1987). We postulate that as the experienced officer and the beginner watch the BWV  
219 footage together they can focus their discussion on the environmental and embodied cues  
220 (data points) that the expert experienced officer has identified to frame (or contextualise) the  
221 situation. As the discussion unfolds, the beginner is given access to the mental model of the  
222 experienced officer as their craft knowledge is shared. This craft knowledge can then be used  
223 to inform future action of the novice officer, when they are confronted with a similar real  
224 world situation.

225 It is proposed that the integration of BWV footage into learning environments combined with  
226 engagement in structured conversations (empowered slow deliberate learning) between expert  
227 or experienced officer and less experienced, or those at the beginning of their police careers  
228 could accelerate decision making skills. We believe there is a potential that real world police  
229 decision making can be accelerated and enhanced through such approaches. Furthermore, the  
230 initial work being undertaken in this field of inquiry warrants closer attention.

231 **Conclusion and moving to the next step**

232 In conclusion, BWV footage could be integrated into simulated training environments which  
233 are specifically designed to accelerate the decision making skills of police officers. The  
234 integration of structured discussions between expert or experienced officers and those at the  
235 beginning of their careers facilitates a slow deliberate empowered learning environment that  
236 creates the opportunity for officers to explore highly pressurised situations but in a controlled  
237 and risk free setting. The structuring of the video based learning environment would  
238 empower the officers to develop effective mental models of decision making which relate to a  
239 specific policing context (e.g. drunk and disorderly). Integrating BWV into a simulated and/or  
240 immersive learning environment facilitates officers being able to identify and prioritise  
241 environmental cues and contextualise (frame) this visual information in context of the real life  
242 situations which they may find themselves.

243 The challenge for policing practitioners and researchers is therefore to integrate emerging  
244 technology into specifically designed and constructed training environments which are free  
245 from harm, maximise and accelerate decision making skills in officers but which are  
246 economically viable. There is potential to use a range of emerging technology in conjunction  
247 with BWV footage to create such a learning context. Eye tracking technology would generate  
248 an understanding of the search patterns or ability to ‘read the scene’ of expert officers when  
249 they are attending an incident (scenarios created in a training context). Such information could  
250 be useful in providing a framework for understanding how expert officers think. The use of  
251 BWV could also be integrated with single user digital technology platforms such as Oculus  
252 Rift (a head mounted display, that exposes its wearer to a bespoke interactive 360-degree  
253 immersive environment, deployed using virtual reality) providing the benefits of learning in a  
254 harm free environment; and which enable the learner to repeatedly encounter training  
255 situations in order to refine their response. Finally, the construction of immersive learning  
256 environments, such as 3D virtual domes (an enclosed 360 degree interactive environment

257 where a range of environments can be projected using conventional game development  
258 techniques to produce 3D digital content) (Roberts & Roberts, 2014) could be used to  
259 facilitate the development and collaboration of team decision making skills between officers,  
260 as multiple individuals can engage in scenario based training collectively in risk free training  
261 context.

262 It is hoped that this paper may open discussion as to how BWV can be integrated with video  
263 based /immersive learning environments; whereby empowering officers to engage in slow  
264 deliberate learning processes can accelerate the development and acceleration of decision  
265 making skills which are transferable to real life situations.

266

## 267 **References**

- 268 Andrews, M. and Roberts, D. (2003). Supporting Student Nurses Learning in and Through  
269 Clinical Practice: The Role of the Clinical Guide. *Nurse Education Today*. 23: 471-481.
- 270 Ariel, B. (2016). Increasing Cooperation With the Police Using Body Worn Cameras. *Police*  
271 *Quarterly*, 19(3): 326–362.
- 272 Ariel, B., Farrar, W. and Sutherland, A. (2015). The Effects of Police Body-Worn Cameras on  
273 use of Force and Citizens' Complaints Against the Police: A Randomized Controlled  
274 Trial. *Journal of Qualitative Criminology*, 31 (3): 509 – 535.
- 275 Bar-Eli, M., Plessner, H., & Raab, M. (2011). *Judgment decision making and success in sport*.  
276 West Sussex, UK: John Wiley & Sons, Ltd.
- 277 Bates, B., & Richards, P. (2011). *Developing Team Decision Making Capabilities in a*  
278 *Professional Football Team*. Paper presented at British Association of Sport and Exercise  
279 Sciences National Student Conference, Chester.

280 College of Policing (2013). National Decision Model; available at  
281 <https://www.app.college.police.uk/app-content/national-decision-model/the-national->  
282 [deicison-model/](https://www.app.college.police.uk/app-content/national-decision-model/the-national-decision-model/) [Accessed 1 September 2016].

283 Coudert, F., Butin, D. and Le Métayer, D. (2015). Body-worn cameras for police  
284 accountability: Opportunities and risks. *Computer Law & Security Review*. 31: 749-762.

285 Culhane, S.E., Bouman J.H. and Schweitzer K. (2016). Public perception of the justifiability  
286 of police shootings: The role of body cameras in a pre-and post-Ferguson experiment.  
287 *Police Quarterly* 19 (3): 251 – 274.

288 Custers, B. and Vergouw, B. (2015). Promising policing technologies: Experiences, obstacles  
289 and police needs regarding law enforcement technologies. *Computer law & security*  
290 *review* 31: 518-526.

291 Goodall, M. (2007). *Guidance for the Police use of body-worn video devices*. Police and  
292 *Crime Standards Directorate*. Home Office. ISBN: 978-1-84726-344-5.

293 Grossmith, L., Owens, C., Finn, W., Mann., Davies. and Baika, L. (2015). Police, Camera,  
294 Evidence: London’s cluster randomised controlled trial of Body Worn Video; available at  
295 [http://whatworks.college.police.uk/Research/Documents/Police\\_Camera\\_Evidence.pdf](http://whatworks.college.police.uk/Research/Documents/Police_Camera_Evidence.pdf)  
296 [Accessed 7 February 2017].

297 Katz, CM., Kurtenbach, M., Choate, D.E. and White, M.D. (2015). Phoenix, Arizona, Smart  
298 Policing Initiative. Evaluating the Impact of Police Officer Body-Worn Cameras;  
299 available at  
300 [http://www.smartpolicinginitiative.com/sites/all/files/Phoenix%20SPI%20Spotlight%20F](http://www.smartpolicinginitiative.com/sites/all/files/Phoenix%20SPI%20Spotlight%20FINAL.pdf)  
301 [INAL.pdf](http://www.smartpolicinginitiative.com/sites/all/files/Phoenix%20SPI%20Spotlight%20FINAL.pdf) [Accessed 28 November 2016].

302 Klein, G. (2008). Naturalistic Decision Making. *Human Factors*, 50(3): 456-460.

303 Lum, C., Koper, C.S., Merola, L.M., Scherer, A. and Reioux, A. (2015). Existing and  
304 Ongoing Body Worn Camera Research: Knowledge gaps and opportunities; available at  
305 <http://cebcp.org/wp-content/technology/BodyWornCameraResearch.pdf> [Accessed 4  
306 February 2017].

307 Mascarenhas, D. R. D., Collins, D., Mortimer, P., and Morris, R. L. (2005). Training accurate  
308 and coherent decision-making in rugby union referees. *The Sport Psychologist*, 19: 131-  
309 147.

310 Masonadvisory. (2015). Police, Camera, Action! Getting the Best from Body-Worn Video.  
311 White paper; available at <https://www.bwvsg.com> [Accessed 19 October 2016].

312 Merola, T. and Richards, P. (2010). *Developing Decision Making Skill in Youth Footballers*.  
313 British Association of Sport and Exercise Sciences National Student Conference,  
314 Aberystwyth.

315 Owens, C., Mann, D. and Mckenna, R. (2015). The Essex Body Worn Video Trial. The  
316 impact of Body Worn Video on criminal justice outcomes of domestic abuse incidents.  
317 College of Policing, UK; available at  
318 [http://whatworks.college.police.uk/Research/Documents/BWV\\_Report.pdf](http://whatworks.college.police.uk/Research/Documents/BWV_Report.pdf) [Accessed 7  
319 February 2017].

320 Ready, J.T., and Young, J.T.N. (2015). The impact of on-officer video cameras on police–  
321 citizen contacts: findings from a controlled experiment in Mesa, AZ. *Journal of*  
322 *Experimental Criminology*, 11: 445–458. DOI 10.1007/s11292-015-9237-8

323 Richards, P., Mascarenhas, D. R. D. and Collins, D. (2009). Implementing Reflective Practice  
324 Approaches with Elite Team Athletes: Parameters of Success. *International Journal of*  
325 *Reflective Practice*, 10(3): 353-363.

326 Richards, P., Collins, D. and Mascarenhas, D. R.D. (2012). Developing Rapid High-Pressure  
327 Team Decision-Making Skills. The integration of slow deliberate reflective learning  
328 within the competitive performance environment: A case study of elite netball.  
329 *International Journal of Reflective Practice*, 1-18. DOI: 10.1080/14623943.2012.670111

330 Richards, P., Collins, D. & Mascarenhas, D. R.D. (2016). Developing Team Decision  
331 Making: A Holistic Framework Integrating both On-Field and Off-Field Pedagogical  
332 Coaching Processes. *Sports Coach Review*, 1-19.  
333 doi.org/10.1080/21640629.2016.1200819

334 Richards, P., Penrose, S. and Turner, M. (2015). Developing Team Decision Making  
335 Capabilities in elite football Youth Academy Players. MMU CRiC International  
336 Coaching Conference, Crewe, UK.

337 Rieken J. (2013). Making situated police practice visible: a study examining professional  
338 activity for the maintenance of social control with video data from the field. PhD thesis,  
339 The London School of Economics and Political Science (LSE).

340 Roberts D. (2010). Vicarious Learning: A Review of the Literature. *Nurse Education in*  
341 *Practice*, 10 (1): 13-16. doi:10.1016/j.nepr.2009.01.017

342 Roberts, D. and Roberts, N.J. (2014). Maximising Sensory Learning Through Immersive  
343 Education. *Journal of Nursing Education and Practice*, 4 (10): 74-79.

344 Schön, D. (1987). *Educating the Reflective Practitioner*. Jossey-Bass, San Francisco.

345 Starkes, J. L. and Ericson, K. A. (2003). *Expert Performance in Sports: Advance Research on*  
346 *Sport Expertise*. Champaign, IL: Human Kinetics.

347 Westbrook, L. (2006). Mental Models: A Theoretical Overview and Preliminary Study.  
348 *Journal of Information Services*, 32, 563-579. Office of Community Oriented Policing  
349 Services.

- 350 White, M.D. (2014). *Police Officer Body-Worn Cameras: Assessing the Evidence*.  
351 Washington, DC.
- 352 Williams, A. M. (2009). Perceiving the Intentions of Others: How Do Skilled Performers  
353 Make Anticipation Judgments? In M. Raab, J. G. Johnson, & H. R. Heekeren (Eds.),  
354 *Progress in Brain Research*, New York: Elsevier, pp. 73-83.
- 355