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13 Scaffolding women coaches' development: A programme to build coaches' competence and
14 confidence.

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27 **Title:** Scaffolding women coaches' development: A programme to build coaches' competence and
28 confidence.

29

30

Abstract

31

32 Research continues to demonstrate the under representation of women coaches and that barriers
33 outweigh support. The purpose of this practical article is to describe the process undertaken by a
34 National Governing Body of Sport (NGB) to deliver a learning and development programme to
35 support women hockey coaches in Scotland, the Women in Coaching (WiC) programme. Our aim is
36 to share understanding about this example of good practice to provide insight and direction for change
37 that can enhance the experiences and provisions of coach education and development for women
38 coaches. *First, we explain the use of scaffolding as a concept to capture the approach adopted in the*
39 *programme to bring together a range of learning situations (e.g., coach education, workshops,*
40 *systematic observation of coaching practice, mentoring). We then describe and discuss the evidence*
41 *gathered to inform programme development (i.e., workforce analysis, interviews with coaches). Next*
42 *the delivery of the programme and assessment of its impact are discussed (i.e., pre-post self-*
43 *perceptions, players' perceptions, coaching behaviours, reflective survey). Finally we present best*
44 *practices based on the lessons learned from our involvement with the programme over the past six*
45 *years.*

46 Key words: scaffolding, coach learning, coach education, intervention, Scotland, hockey, women
47 coaches

48

Introduction

49 There has been much research and discussion on the under representation of women in
50 coaching and particularly in performance environments such as [collegiate](#), national, and international
51 sport. Research documenting the numbers of women and men coaching has demonstrated that this
52 under representation is not restricted to one country and includes the UK (Bruce, 2014; Norman,
53 2008), USA (Acosta & Carpenter, 2012; LaVoi & Dutove, 2012) Canada (Reade, Rogers, & Norman,
54 2009) and NZ (Allen & Shaw, 2009). Examinations to better understand this issue have explored
55 topics such as the masculine culture of sport (Norman, 2013), organisational factors including
56 recruitment (Reade et al., 2009; Norman, 2010), pathways (Barker-Ruchti, Lindgren, Hofmann,
57 Sinning, & Shelton, 2014), education (Lewis, Roberts, & Andrews, 2018) and support (Allen & Shaw,
58 2013). Unfortunately, this research paints a rather bleak picture of the plight of women coaches.

59 LaVoi and Dutove's (2012) literature review of barriers and supports for women coaches
60 provided a useful examination of both sides and different levels of the picture using Bronfenbrenner's
61 ecological systems theory model. They organised barriers and supports into four ecological levels:
62 individual, interpersonal, organisational, and sociocultural context. Whilst it is encouraging that
63 factors which support women coaches were apparent, LaVoi and Dutove (2012) concluded that
64 barriers far outweigh supports at all ecological levels and that research has focused "far more on
65 problems, issues, and barriers" (p. 30). We applaud the efforts of researchers to date and agree that
66 there is much which needs to be addressed to create a more positive environment and improve
67 experiences for women coaches. There are, however, examples of good practice and several
68 organisations have made efforts to ensure women coaches are respected, valued, and supported. The
69 work of groups in Canada such as the Coaching Association of Canada's (CAC) "We are coaches"
70 recruitment campaign and training programme (Demers, 2009) and the House of Commons Standing
71 Committee Report outlining key education, policy, and advocacy recommendations to advance
72 women coaches (Demers & Kerr, 2018) provide examples of national initiatives across sports.

73 Complementing such large scale cross-sport initiatives, the purpose of this article is to
74 describe the process undertaken by one National Governing Body of Sport (NGB) to deliver a

75 learning and development programme to support women hockey coaches in Scotland – the Scottish
76 Hockey Women in Coaching (WiC) programme. Development began in 2012 with foundational
77 research. The programme was launched in 2013 and is still running some six years on. We explain the
78 development, delivery, and impact of the programme as well as lessons learnt during our management
79 of the programme. Our aim is to share understanding about this example of good practice to provide
80 insight and direction for change that can enhance the experiences and provisions of coach education
81 and development for women coaches.

82 **Coach Learning and Development**

83 Coaches' learning situations have been described as formal, involving structured programmes
84 that require participants to achieve certain standards and criteria for performance such as national coach
85 education programmes leading to qualifications (Nelson, Cushion, & Potrac, 2006; Trudel, Gilbert, &
86 Werthner, 2010). These are generally mediated, where a person other than the learner directs the
87 learning (Werthner & Trudel, 2006), however, they may involve unmediated situations where the
88 learner chooses what to learn and learning is self-directed (Werthner & Trudel, 2006) such as through
89 discussions with other coaches who are also part of the formal programme. Other, typically mediated,
90 learning situations include seminars, workshops, and conferences. These non-formal learning situations
91 are organised activities offered to specific subgroups on topics of a particular interest (Nelson et al.,
92 2006; Trudel, et al., 2010). Similar to formal learning situations, the organisation and content is typically
93 designed by someone other than the learner. However, unlike formal learning, they are usually of short-
94 duration (few hours) and not linked to assessment. In contrast, informal learning situations, which are
95 largely unmediated and often involve internal learning, where the coach reconsiders existing ideas,
96 include interactions with other coaches, reading books, searching the internet, experiences as an athlete
97 and reflecting on current practice (Nelson et al., 2006; Trudel, et al., 2010; Werthner & Trudel, 2006).
98 The topics for these informal learning situations may be directed by the coach (unmediated or internal)
99 or directed (mediated) by a 'more knowledgeable other' (Vygotsky, 1978).

100 Research examining coaches' learning indicates that learning is sourced from many different
101 learning situations, however, not all situations are valued or contribute equally to coaches' development

102 (Christensen, 2014; Nelson, Cushion, & Potrac, 2013; Vella, Crowe, & Oades, 2013; Werthner &
103 Trudel, 2009; Winchester, Culver, & Camiré, 2013). For example, research suggests coaches' place less
104 value on formal learning situations compared to other learning situations (Nelson et al., 2006). Formal
105 courses have also been criticised for adopting a process of knowledge transmission from the coach
106 developer to coaches (passive recipients), lacking in context and meaning, and failing to address
107 coaches' desire for practical activity (Camiré, Trudel, & Forneris, 2014; Nelson, et al., 2013; Vella, et
108 al., 2013). However, research has demonstrated that coach education has a positive impact on coaching
109 efficacy (coaches' beliefs that they have the capacity to affect athletes' learning and performance,
110 Campbell & Sullivan, 2005; Sullivan, Paquette, Holt, & Bloom, 2012). Furthermore, women golf
111 coaches valued the structure and feedback provided by their coach education programme and the
112 credible educators (McCullick, Belcher, & Schempp, 2005). In contrast, Lewis et al. (2018) found that,
113 during their coach education, women football coaches in the UK experienced gender discrimination,
114 inappropriate practices, feeling unwelcome, and a lack of self-worth which caused some to question
115 their commitment to coaching and coach education. However, participants also suggested that female
116 role models, either as coaches or coach developers, and women only courses, would provide a better
117 experience for them. Therefore, formal mediated learning situations such as coach education appear to
118 have both strengths and weaknesses for women coaches' development.

119 Non-formal and informal learning situations provide valued contributions to coaches'
120 development [such as](#) opportunities to cover topics not covered in formal courses, observe coaches in
121 authentic situations, converse with other coaches, and learn through coaching (Camiré, et al., 2014;
122 Christensen, 2014; Falcao, Bloom, & Bennie, 2017; Stodter & Cushion, 2017; Winchester et al., 2013).
123 They also present potential challenges to coaches' development and learning because they may lead to
124 a somewhat ad hoc mix of developmental experiences (Cushion, et al., 2010). Additionally, [non-formal](#)
125 [and informal learning situations](#) may limit coaches' development due to the uncritical adoption of
126 coaching practices (Koh, Lee, & Lim, 2018; Stoszkowski & Collins, 2016) and a lack of awareness of
127 areas in their coaching that could benefit from further development. Furthermore, [in these learning](#)
128 [situations](#) coach developers may have a limited capacity to support and even guide the development of

129 coaches. Therefore, when considering how best to support and guide women coaches' learning and
130 development it was useful to recognise the potential benefits and weaknesses of all learning situations.
131 In line with arguments to move beyond the separation of learning situations to see learning opportunities
132 as interacting and overlapping (Stodter & Cushion, 2017), the WiC programme, examined in this article,
133 utilised a scaffolding approach (Wood, Bruner, & Ross, 1976) to integrate a variety of learning
134 situations including coach education (typically formal mediated) and development opportunities (non-
135 formal or informal mediated or unmediated).

136 **Scaffolding Approach**

137 We found the scaffolding metaphor (Wood, et al., 1976) and in particular, its integration with
138 Vygotsky's (1978) Zone of Proximal Development (ZPD) provided a useful means to capture the
139 approach of the programme. Specifically, ZPD is the gap between what the individual can do
140 independently and what is possible with the guidance or collaboration of more capable others
141 (Vygotsky, 1978), that is, the features of the task (Jones & Thomas, 2015). Scaffolding is "the support
142 given to a student by a teacher when performing a task that the student may not otherwise be able to
143 accomplish" (Van de Pol, Volman, & Beishuizen, 2010, p. 274). Combined, these suggest an interactive
144 process between 'teacher' (coach developers) and 'student' (coaches) where both actively participate.
145 The coach developers' support (scaffolding) must be contingent, adapted to the coach's current level of
146 performance (and associated ZPD), and increased or reduced in response to the coach's developing
147 competence (Van de Pol et al., 2010).

148 Scaffolding has been used by coaching researchers as a means to understand and explain the
149 provision of structure to the complexity of coaching practice; to guide without prescribing (Jones &
150 Thomas, 2015; Cooper & Allen, 2018). To date, the focus has been on how coaches employ notions of
151 ZPD and scaffolding to facilitate athletes' learning. For example, Cooper & Allen (2018) found that
152 coaches valued a model of coaching [to guide coaches' attention and identify knowledge and skills](#)
153 [needed but without prescribing coaches' practices](#). In this way the model provided structure (and
154 challenge) to guide planning, delivery, and reflection, when needed, but also freedom (even
155 encouragement) to adapt to athletes and situations.

156 Adapting this approach to coaches' learning, the foundation of the WiC programme was to
157 support rather than direct coaches' learning (scaffolding) and start with the coaches' individual needs
158 and what they might be capable of with assistance (ZPD). The construction of learning activities were
159 carefully considered to both initiate learning and react to coaches' progress. Thereby providing a
160 structure to extend the coaches' capabilities but at the same time supporting their engagement in
161 challenges by increasing or reducing complexity in response to their progress. This approach also
162 allowed us to address concerns raised about uncritical adoption of coaching practices garnered from
163 unmediated learning situations (Koh et al., 2018; Stoszkowski & Collins, 2016).

164 In the following four sections we: 1) describe the context in which the programme took place;
165 2) present the evidence-based development of the programme; 3) explain the programme delivery and
166 its impact on coaches; and 4) share the lessons we have learnt through reflecting on our involvement as
167 the WiC programme leaders.

168 **Context of the WiC Programme**

169 Hockey (field hockey) is a medium-sized sport in Scotland. In a country of approximately 4
170 million people, Scottish Hockey (NGB) has a membership of approximately 10,500 young people and
171 adults. At the time the project began (2012), there was some evidence that women were under-
172 represented in coaching roles despite [higher numbers attending](#) introductory coaching courses (Lyle,
173 2007; sportscotland, 2006). Furthermore, anecdotal insight from the NGB Coach Education
174 Development Manager (CEDM; second author) suggested there was a lack of women coaches
175 involved in hockey in Scotland. For example, there were no women coaches leading Scottish
176 international squads (youth or senior) and few women were coaching club teams in the domestic
177 national league competition. To establish the current state of the coaching workforce in Scotland,
178 data related to coaching was extracted from the 2012 Scottish Hockey Membership survey. Members
179 (N = 1,617) completed the survey which gathered demographic information and current and previous
180 involvement in the sport (e.g., player, coach, umpire). Just less than a quarter of members (N=363,
181 22.4%) indicated involvement in coaching. They ranged in age from 16 to 69 years (M= 36.5 years).

182 With regards to gender, 60.8% were men and 36.6% were women (2.5% did not indicate their
183 gender).

184 This analysis of the coaching workforce indicated that women were under-represented in
185 hockey coaching in general and in all coaching environments except the children's environment (Figure
186 1). Seventy-six percent of women reported working in the children (5-11 years) or youth (12-18 years)
187 environments compared with 58.3% of men coaches. In the children environment the proportion of
188 women compared with men was approximately equal. However, in the youth and talent (performance
189 pathway athletes) environments, one coach in three was a woman. While in the adult participation and
190 high performance environments the imbalance was even greater where only one coach in five was a
191 woman. These findings are similar to those reported across sports in the UK and other countries (e.g.,
192 Bruce, 2014; Norman, 2008; Reade et al., 2009).

193 The sport had a four-level coaching qualification structure **which** aligned with the United
194 Kingdom Coaching Certification system (UKCC). Within this structure, coaches qualified at level 1
195 could assist in coaching delivery, whereas coaches qualified at level 2 and above were considered
196 competent to lead coaching sessions. The proportion of coaches who held a coaching qualification was
197 similar for men (70.6%) and women (71.4%). However, women (19.7%) were less likely than men
198 (35.1%) to have qualifications appropriate for leading sessions (i.e., UKCC Level 2 or above). The
199 majority of women (80.3%) were qualified to assist only (UKCC Level 1). Therefore, there was clear
200 evidence to inform the NGB's strategy and funding allocation for an initiative to better support women
201 hockey coaches in Scotland, particularly to take on lead coaching roles and work in different coaching
202 environments.

203 **WiC Research for Programme Development**

204 To inform the content and design of the WiC programme, a small research project to examine
205 **the** experiences and needs of women hockey coaches in Scotland was conducted. The findings from
206 the workforce analysis revealed that fewer women coached in the 'higher-level' environments (i.e.,
207 talent, adult participation, and adult performance). Therefore, the study focused on women who had
208 experience of coaching in these environments.

209 **Research Process**

210 **Participants.** Fifteen women who were currently coaching, or had recently coached, in the
211 adult, talent development, or performance coaching environments were identified by the CEDM and
212 invited to participate in a semi-structured interview to explore their development experiences and
213 needs. Ten coaches agreed to participate in the study. The coaches ranged in age from 26 to 59 years
214 (M= 43.4 years). Coaching experience ranged from 4 to 37 years (M=21.6 years). *The highest*
215 *coaching qualification held by the coaches was: Level 3 (n=4), Level 2 (n=5), Level 1 (n=1).* Seven of
216 the coaches had worked with international squads and all but one of these coaches had coached adult
217 club teams in the domestic national league competition. The other three coaches had coached district
218 teams (youth domestic representative talent development teams) and/or senior club teams (adult
219 participation teams).

220 **Data collection and analysis.** The interviews focused on topics such as how the participant got
221 involved in and developed their coaching, their experiences with coach education and continued
222 professional development (CPD), support received, challenges faced, and desired opportunities for
223 further development or involvement. Interviews were transcribed verbatim and thematically analysed
224 (Braun & Clarke, 2006). The data were coded under 15 first order themes which were then reviewed
225 and refined to develop the final higher order themes. To protect participants' identity, each coach was
226 given a code (e.g., Coach A).

227 **Research Findings and Discussion**

228 Four higher order themes were developed: favourable conditions, development opportunities,
229 personal support, and constraints and challenges. A brief description of each is provided below, along
230 with illustrative quotes.

231 **Favourable conditions.** The factors that contributed to starting and progressing in coaching
232 for these women were largely consistent with research examining supports and barriers for women
233 coaches in other sports and countries (LaVoi & Dutove, 2012). These included previous playing
234 experience, having an interest in coaching, availability of a coaching opportunity, possessing
235 transferrable skills, timing in playing career, and being known or knowing the 'right' people. Coach E

236 commented that she was asked because “they were looking for other potential people... because I had
237 my P.E. qualifications and obviously a knowledge of the sport...” Referring to being known at her club
238 because of her playing career, Coach G commented “...the club knows me, they know who I am, so it
239 was easy for me to get involved... I then got approached to coach the 15’s and 16’s at District level and
240 then approached for the National stuff.” Knowledge and skills gained through experience as an athlete
241 helped coaches to feel confident in their knowledge-base for coaching and supported their engagement.
242 Coach D expressed it this way, “it doesn’t matter how successful you are, at some point people will still
243 say something pretty down about you ... So you come back to confidence and putting yourself out there.”
244 Being approached and invited to coach could be seen as a form of sponsorship (Kerr & Banwell, 2016).
245 The fact that others thought they would be able to ‘do the job’ gave the coaches confidence to coach.

246 **Development opportunities.** Consistent with previous research regarding coaches’ (men and
247 women) learning and development, our coaches engaged in a range of development opportunities,
248 including coach education, workshops, practical coaching, discussing ideas with other coaches, working
249 with a mentor/peer or coaching team, drawing on their experiences as a player for knowledge of the
250 sport and insights into parts of the coaching process (Nelson et al., 2006; Werthner & Trudel, 2009).
251 Somewhat in contrast to this literature, and in particular to women football coaches’ experiences (Lewis
252 et al., 2018), and yet similar to McCullick et al. (2005) research with women golf coaches, these coaches
253 valued formal coach education and workshops. Also consistent with McCullick et al. (2005) and
254 research on coaches’ learning more generally these women valued opportunities to learn through
255 observing, analysing, and discussing hockey and other sports at a high level (Christensen et al., 2104;
256 Stodter & Cushion, 2017), sharing ideas with other coaches, and engaging in practical coaching (e.g.,
257 Camiré et al., 2014; Falcao et al., 2017; Stodter & Cushion, 2017). For example Coach A explained,
258 “I’ve been to quite a few courses and they’re good but I think to get the real benefit, you just have to get
259 out there and learn, sometimes through your mistakes, and sometimes through talking with other
260 people.” These findings suggest that providing a range of learning situations including engaging
261 coaches in practical experiences that extend their sport-specific and general knowledge, and coaching
262 skills are likely to be well received and useful for coaches’ development.

263 **Personal support.** Coaches discussed the importance of feeling they were supported in
264 their coaching. As Coach A put it “I mean, it's a very lonely place to be because you put everything
265 on the line to coach a team.” The support coaches experienced came from connections with other
266 coaches, support from a partner, friends, peers, mentors (LaVoi & Dutove, 2012), and, less
267 commonly noted in the research, organisational level support from NGB staff such as the CEDM
268 (Allen & Shaw, 2009). The support included practical assistance with information, planning, or
269 coaching activities. It also often included a person to discuss ideas with or ‘just be there’ for
270 them. For example, Coach C valued having someone who was ‘there for her’, “you will struggle
271 but you need to find someone to go, ‘its fine... it’s not because you’re a bad coach.... it’s just the
272 norm’.” Critical to the quality of support was a trusting relationship where coaches did not feel
273 judged but rather ‘felt safe’ to ‘expose’ their weaknesses, concerns, or frustrations. Coach E
274 described her experiences of support in this way:

275 It is important to have somebody that you can bounce [ideas around with] and somebody
276 that you know quite well and trust. It’s being able to say what you're feeling or what you
277 think without thinking, ‘Oh I wonder what they’re going to think about what I’m saying?’

278 Such relationships suggest relatedness support and a growth oriented climate can be fostered by
279 those around the coach (Allen & Shaw, 2009), which is important when seeking to create
280 opportunities to learn and develop (Ryan & Deci, 2000).

281 **Constraints and challenges.** The coaches reported experiencing a number of constraints and
282 challenges in their coaching and its development. Again, there were similarities with those identified
283 by LaVoi and Dutove (2012) including life course priorities, coaching role expectations and
284 commitments, availability of coaching opportunities, and access to development opportunities. Coach
285 H’s comment captured the ‘boys’ network influence on coaching opportunities available:

286 It’s all very much who is around at the time, gets asked. They need to open it up to wider...
287 have a look at who’s out there, more than right I know a guy, I’ll ask him and if he says no then
288 it’s on to the next...

289 Recruitment processes, where individuals were invited to coach resulted in the recruitment of coaches
290 based on who the recruiter knew and what he or she considered the right characteristics for a coach.
291 Furthermore, a lack of open advertising and clear selection criteria also limited the coaches'
292 opportunities to develop further.

293 Feeling undervalued and a lack of support were also significant challenges for some coaches
294 (LaVoi & Dutove, 2012; Allen & Shaw, 2009). Coach B commented on her experience "...there was a
295 lot of change... and not feeling you've got appropriate support. We had a particularly tough time ... I
296 thought, 'Well... if I'm not of value anymore in this programme then I'll not do it any longer.'" As
297 volunteer coaches who were generally unpaid, balancing the time commitment required for coaching
298 with the financial and time requirements of their 'day-jobs' and careers was challenging for our coaches.
299 Coach D commented that "many women... can't actually afford to take a long weekend out of their job
300 three weekends in a row... you're making great sacrifices and it won't necessarily count in your favour
301 when you go to get a promotion."

302 In summary, this research suggested that when developing the WiC programme we should openly
303 advertise the programme but also invite potential participants to apply, particularly those who may not
304 have the confidence to put themselves forward. The programme should include a range of learning
305 situations that provide structure and direction but also opportunities for practical coaching, observation of
306 others, and sharing experiences with other coaches. It would also be important to create connections
307 amongst those involved in the programme where trusting relationships could be developed and coaches
308 would feel psychologically safe and supported, not judged.

309 **WiC Programme Delivery and Impact**

310 The evidence gathered confirmed that 'something needed to be done' to better support women
311 hockey coaches in Scotland. It also provided useful direction for elements of the WiC programme. The
312 aim of the programme is to support women coaches to develop the quality of their coaching practice
313 and confidence as coaches. This is achieved through the provision of a range of education and
314 development opportunities tailored to the needs of the coaches.

315 **Programme Content**

316 Drawing on our research findings as well as evidence and recommendations from other
317 research, a general structure for the programme was developed and potential types of content were
318 identified. Learning situations available include self-analysis of coaching practice, developing action
319 plans, regular [one-to-one](#) mentoring meetings, education, CPD workshops, players' feedback,
320 observation of coaching practice, and feedback on their coaching practice. However, in keeping with
321 our scaffolding approach we start with the coaches and determine their needs in collaboration with the
322 coach developers. Through this approach the intention is to scaffold coaches' learning, providing
323 guidance and support, where needed, whilst being flexible enough to ensure the actions are contingent
324 to the coaches' current level of competence (and associated ZPD) and therefore, address the individual
325 needs of the coaches (Van de Pol et al., 2010). To begin this interactive process, the coaches complete,
326 with the assistance of a mentor, a self-analysis profile of their coaching practice and an action plan. In
327 discussion with the coach, this information is used to identify coaches' current level of perceived
328 competence and to begin to select potentially useful learning situations. Where appropriate, coaches are
329 signposted to existing learning situations such as sport-specific or across-sport coach education and
330 workshops. Where needed, bespoke workshops are delivered that address an area of interest/need for
331 the coaches. These bespoke workshops tend to focus on hockey-specific content and frequently run
332 alongside national or international hockey events (e.g., European Hockey Championships, Hockey
333 World Cup, National team matches). Our approach meant that each delivery of the programme had a
334 similar structure and yet what, when, where, how, with whom varied in response to each cohort of
335 coaches.

336 The assessment of coaches' current level of competence is also informed through observation
337 of their coaching practice in their own coaching environment with the players they usually work with.
338 These sessions are video recorded and feedback reports and short video examples of their practice are
339 given to the coaches and their mentors. Observing their coaching in context addresses concerns raised
340 in coach education research that education is divorced from the coaches' reality and limited in practical
341 activity (Nelson et al., 2013). The observation also provides insight to inform the individualised ZPD
342 and intentions for scaffolding as well as an opportunity for feedback [which is one](#) of the means by which

343 scaffolding shapes learning (Van de Pol et al., 2010). To ensure feedback to coaches is meaningful, a
344 number of tools developed for the programme are used. These tools also enable monitoring of the
345 programme's impact. Descriptions of the tools, their content, and development process are provided in
346 Table 1.

347 **Programme Launch**

348 In 2013, the Scottish Hockey Women in Coaching programme (WiC) began. To raise awareness
349 of the WiC programme and the evidence base for its development, four regional roadshows were
350 conducted. The roadshows involved a short presentation which introduced the findings from the
351 research, encouraged coaches to consider their needs for the environment they coached in, and promoted
352 the WiC programme. It was also advertised to the hockey community through clubs, districts,
353 development officers, and the Scottish Hockey website. The first delivery of WiC started in August
354 2013, with an all-day event for the first cohort of coaches held at the Glasgow National Hockey Centre
355 in conjunction with a hockey event. This induction and start of the programme gave participant coaches
356 a chance to meet one another, the programme management team, and mentors. They also participated
357 in a workshop, self-assessment process, and developed their action plans. In subsequent years with each
358 new cohort of coaches, a similar, but smaller, induction event occurred. The first programme was a two-
359 year programme with subsequent programmes being one-year in length. Bringing the coaches and coach
360 developers together enabled us to begin to foster relatedness, the desired growth-oriented climate, and
361 trusting relationships amongst coaches, as well as between coaches and coach developers (Allen &
362 Shaw, 2009).

363 **Workforce**

364 A small workforce was identified for the programme which included a management team,
365 mentors, and individuals for ad hoc workshop delivery. Our research findings and those from previous
366 research had demonstrated the value and desire for women role models (Belding & Dodge, 2016;
367 Demers, 2009; Lewis et al., 2018), therefore, where possible, the management team, mentors, and
368 workshop tutors were women. In keeping with the scaffolding approach of the programme, the
369 workforce worked to guide but not prescribe the learning for the coaches. Key strategies included

370 using evidence to inform feedback provided (e.g., systematic analysis of coaching practice,
371 perceptions of players from anonymous surveys) which provided concrete examples to discuss,
372 adopting a questioning and hinting style of interaction where possible, encouraging the coaches to
373 develop their own understanding and meaning (Engin, 2013), and using instructing, explaining, and
374 modelling only when greater guidance was needed (Van de Pol et al., 2010). For example, feedback
375 from observed sessions provided evidence of coaching practice and posed questions for the coaches to
376 consider which could then be discussed with their mentor. A question raised in several coaches’
377 feedback was, how effective is the use of concurrent instruction throughout a practice? The discussion
378 with the mentor about, in this case, concurrent instruction, could be led by the coach and/or guided by
379 the mentor as needed to explore related areas of coaching practice such as the quality of instructions,
380 managing groups, or when and how feedback is provided or built into activities.

381 **Programme Impact**

382 A full evaluation of the programme is beyond the scope of this article, however, below we
383 present several key points related to the aims of the programme: programme reach, development of
384 confidence, quality of coaching. These were identified through our review of the information gathered
385 from coaches, players, mentors, and reflections of the management team during the delivery of the
386 WiC programme.

387 **Programme Reach.** At the time of writing, the programme had been running for 5 years. There
388 have been 4 cohorts, involving 16 coaches, 21 clubs, and 14 schools. Six coaches have been involved
389 in Scottish National Youth Squads (international teams). Eleven coaches have engaged in supported
390 coach education and obtained or are completing a UKCC qualification. In post-programme surveys, the
391 coaches consistently rated the programme as *very good*. A coach in cohort 1 commented that “the WiC
392 programme has helped me to improve as a coach and given me greater confidence. I would highly
393 recommend it.” A coach in cohort 3 commented:

394 I would just like to thank the WIC which I feel has regenerated me as a coach and now given
395 me a new network of faces to help me continue with my coaching and move forward to
396 inspire more coaches/players in the future.

397 Examples of some success stories from the programme for each cohort are provided in Table 2.

398 **Development of Confidence.** Low confidence is a commonly reported barrier for women
399 coaches (LaVoi & Dutove, 2012) and fostering perceptions of confidence and competence was a
400 particular focus of the WiC programme. Although we did not measure confidence directly, comments
401 from some coaches in the post-programme survey suggested that the programme had changed their
402 perceptions of their coaching including improvements in confidence. For example, a coach from
403 cohort 3 commented on the impact of the programme for her, “my confidence, that the doubt I had, I
404 didn't need to have.” A coach from cohort 1 also commented, “I feel it has improved my confidence
405 with my coaching.” Another indication that the coaches’ confidence improved during the programme
406 came from the changes evident in their self-perceptions of coaching practice. For example, Figure 2
407 shows the increase in self-perceptions of coaches in cohort 3 from the beginning to the end of the
408 programme. These findings support the research on coaching self-efficacy and coach education
409 (Sullivan et al., 2012) which, although relatively limited with regards to examinations of women’s
410 perceptions, suggests women’s confidence can improve through these formal learning situations
411 (Campbell & Sullivan, 2005; c.f. Lewis et al., 2018).

412 **Quality of coaching.** An area that was an important focus for the programme was seeing
413 improvement in coaching quality. Coaches’ comments in post-programme surveys indicated that as a
414 result of their involvement in the programme, some coaches believed there were changes in their
415 coaching practice including [greater use of planning, seeking input from players, more reflection on](#)
416 [sessions and coaching behaviours, and successfully completing coach education.](#) These perceptions of
417 [change in quality of coaching](#) are illustrated in the following quotes from coaches:

418 “I have taken the time to plan my sessions in advance, to include links with drills week to
419 week.” (coach, cohort 3)

420 “I ask players more questions and give them more ownership.” (coach, cohort 1)

421 “I have taken the time to evaluate my sessions writing down good points, what worked and
422 areas for improvements.” (coach, cohort 3)

423 “The programme has given me the encouragement and support to get through my level 2.”
424 (coach, cohort 2)

425 In addition to coaches’ self-reported changes in coaching practices, all coaches were observed
426 coaching in their normal coaching contexts on more than one occasion. Analysis of the coaches’
427 coaching behaviours using a systematic observation tool (see Table 1) enabled individualised
428 feedback as well as an opportunity to examine change in behaviours. As with any behaviour change,
429 changes were not uniform across coaches. However, Figure 3 provides an example of a coach from
430 cohort 1 who improved the quality of her coaching through reduction in the proportion of
431 management-related behaviours (organisation and instruction) and an increase in the proportion of
432 behaviours designed to assist players to improve their performance (i.e., technical/tactical
433 information, feedback, questioning) (analysis and intervention). Coaches valued this feedback about
434 their coaching and the opportunity to discuss it with their mentor. For example, a coach from cohort 2
435 commented that the “video feedback has been great... I found the feedback videos the most helpful
436 when feedback was given alongside these.”

437 Although not a focus at the beginning of the programme, having collected evidence of
438 coaching practice with each cohort, it was possible to examine behaviours across coaches which
439 revealed a propensity for hockey coaches to use a lot of organisation and instruction behaviours
440 (M=39.7%) and much fewer analysis and intervention behaviours (M=26.6%). This finding is
441 consistent with coaching behaviour observation research where instruction is the most frequently
442 observed behaviour (Cushion, 2010). The high proportion of instructional behaviours has been
443 associated with the view that coaching is about the transmission of knowledge from the more
444 knowledgeable (coach) to the less knowledgeable (athletes) and in order to be viewed as credible,
445 coaches ‘need’ to display these behaviours (Cushion, 2010). This view of coaching has been criticised
446 in favour of a more transformative process, whereby coaches pose problems or questions for players
447 encouraging them to explore alternatives and construct or re-construct knowledge. Therefore the
448 changes to the WiC coaches such as those in Figure 3 suggested a desirable impact on the quality of

449 coaching. This provided useful information for the CEDM who was able to raise the finding with the
450 coach education workforce as a potential development need for coaches beyond the WiC programme.

451 **Best Practices**

452 Reflecting on our experiences with the programme, we have learnt a few lessons about the
453 management, structure, and content of the programme that may be useful for others who wish to
454 support women coaches.

455 **Evidenced-Based**

456 At the outset, and throughout the programme, we collected and recorded evidence related to
457 the programme and coaches. Using research, both our own and others', we learnt from coaches'
458 experiences of learning and development. Initially this provided evidence to justify the time and
459 resources committed to the programme. It also informed the approach and content of the programme
460 and continues to inform on-going improvements. Importantly, it provides feedback for coaches and
461 mentors, which is used to facilitate discussions about coaching, determine needs (and associated
462 ZPD), and enable scaffolding by the mentors (Engin, 2013; Van de Pol et al., 2010).

463 **Scaffolding Approach**

464 Our scaffolding approach to the provision of support for the women coaches has provided an
465 alternative and useful means of conceptualising support and bringing together various learning
466 situations for the coaches. Starting with the coaches' needs (e.g., level of competence) and ensuring
467 an interactive process that provided structure and guidance to the coaches' learning and development
468 (Engin, 2013; Van de Pol et al., 2010) enabled coach developers and coaches, themselves, to check
469 and challenge their practice (Koh et al., 2018; Stoszowski & Collins, 2016) whilst being flexible
470 enough to address individual needs (Jones & Thomas, 2015; Cooper & Allen, 2018).

471 **Quality Workforce**

472 The mentors and coach developers who are part of the programme are experienced in their roles
473 and in coaching hockey. They are also all women. This provides the coaches with clear role models
474 (Belding & Dodge, 2016; Demers, 2009; Lewis et al., 2018) who may have had similar experiences to
475 those of the participating coaches. Their impact was enhanced by the good fit between their ways of

476 working and the scaffolding approach of the programme. For example, the use of questioning to
477 facilitate coaches to find their own solutions to challenges they faced. Post-programme survey responses
478 indicated [that](#) the coaches valued having a mentor and appreciated the mentor’s approach when working
479 with them. This is illustrated in the comment from a coach in cohort 2 who indicated that it was “helpful
480 to talk through areas of difficulty with someone who has good knowledge. Instead of providing answers
481 we talked about the situation and I came to a conclusion that would work.”

482 **Regular Contact**

483 The programme is for coaches from across Scotland, however, to build connections, foster the
484 supportive environment central to the programme, and keep momentum in the coaches’ development,
485 regular contact is valuable. The coaches this programme targets are volunteers with many temporal
486 demands. Therefore, the expectations that all coaches will engage in all opportunities is unrealistic.
487 We have found that “face to face” meetings early in the programme [are](#) particularly helpful to provide
488 a strong foundation for the mentoring relationships, [resulting in the development of](#) a sense of
489 relatedness with programme staff and other coaches (Allen & Shaw, 2009). Once that foundation is
490 established, contact via online media became more productive.

491 **Dedicated Programme Manager**

492 Having one person who oversees and drives the programme has been essential. In our case it
493 was the CEDM. With the support of the NGB, she was able to give valuable time and a small amount
494 of funding to the programme. As an experienced coach developer, mentor, and coach, she was able to
495 foster the climate and relatedness important to the programme (Allen & Shaw, 2009) and scaffold,
496 guiding without prescribing, the activities of the workforce and coaches (Engin, 2013; Van de Pol et
497 al., 2010). Given her role in the NGB and coaching community, she is able to sponsor coaches,
498 making them aware of opportunities and supporting them for relevant roles within the NGB, districts,
499 and clubs (Kerr & Banwell, 2016).

500 **Conclusion**

501

502 Much has been researched and written about the under representation of women as coaches
503 and the barriers they face. The WiC programme emerged from a desire to support women coaches in
504 one sport in Scotland and this article emerged from a desire to capture and share what we believe is an
505 example of good practice. Features central to the programme include: developing an evidence base to
506 inform content and monitor impact, engaging a quality workforce, endeavouring to maintain regular
507 contact, and having an individual with the determination and skills to drive the programme. Crucial to
508 the programme's success, however, is the overarching scaffolding approach - a commitment to start
509 with the individual's needs and guide without prescribing. This enabled the integration of formal,
510 non-formal, informal, mediated and unmediated learning situations to facilitate the coaches'
511 development. The programme is not perfect, by any means, however, the evidence gathered from the
512 coaches, players, mentors, and management team has demonstrated that it is having a positive impact
513 on women coaches' confidence and quality of coaching. Importantly, the programme is valued by the
514 women who have participated.

515

516

517

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615 Table 1.

616 *Feedback and Monitoring Tools*

Component	Tool	Description	Development Process
Self-assessment	Coaching practice wheel – coach	Coaches provide their perceptions of competence in 16 aspects of coaching which are organised into four areas: planning activities; effective actions in training; effective actions in games; and positive outcomes for players. Perceptions are rated on a scale from 1 (not at all) to 10 (excellent).	This tool was developed through examination of research and literature on coaching activities. Then discussed and adapted with the assistance of an expert coach and coach educator.
Athletes' feedback	Coaching practice wheel – player	Using the same 16 aspects of coaching as the coach-practice wheel, this tool asks athletes to provide their perceptions of their coach's practice. Perceptions are rated on a scale from 1 (not at all) to 10 (excellent).	This tool was adapted from the developed coach practice wheel.
Analysis of coaching	Hockey Coaching Observation Tool (HCOT)	A systematic observation tool The HCOT contains 14 different coaching behaviours which were organised into 3 broad areas: organisation and instruction; analysis and intervention; relationship and motivation.	Based on an established research coach observation tool (ASUOI) (Lacy & Darst, 1984), the HCOT was modified from to be appropriate to hockey.
Programme reflection	Post-Programme Survey	Online survey examining perceptions of engagement in the programme, learning, behaviour change, mentoring, and overall ratings of the quality of the programme and mentoring. The survey includes open questions and Likert type response questions rated on a scale from 1 (poor) to 5 (very good).	Questions were designed by the authors to provide evidence of the extent to which the aims of the programme were met.

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619 Table 2.

620 *Success stories of the WiC programme*

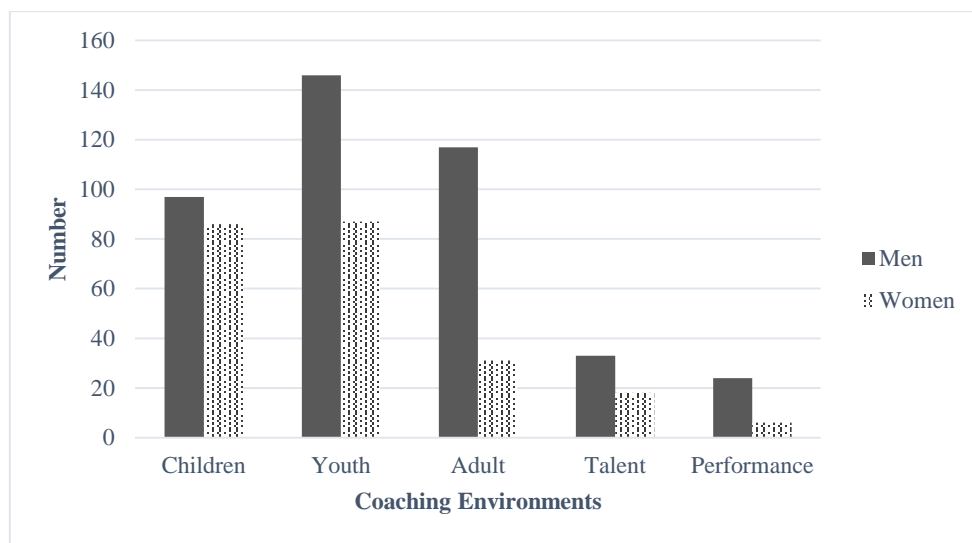
Cohort			
1	2	3	4
Fulfilled her action plan and become Head Coach of the National U16 Girls.	Started as a specialist goal keeper coach, working only with goal keepers and did not see herself as lead coach. She now manages other coaches/young leaders in her club and coaches around 100 children on a weekly basis.	Never engaged with coach education or CPD because she felt intimidated by more formal learning opportunities. She is no longer scared to ask for help or attend CPD and has completed her UKCC Level 2.	Two coaches are coaching National League Division 1 teams, one of these coaches is also working with a National Youth Squad and District Performance Squad.
Engages in weekly coaching of District Performance Squad (part of the players' talent development pathway).	Primarily a player at the outset, is now focussing more on her coaching role with a National League Division 1 team (highest domestic competition). Senior club coach and assisted with a national youth squad.	Assistant coach for the National U16 Girls squad. Head coach for the Scotland Universities Women's team.	Started her own coaching business delivering hockey coaching to children and adolescents.

621

622 Figure 1.

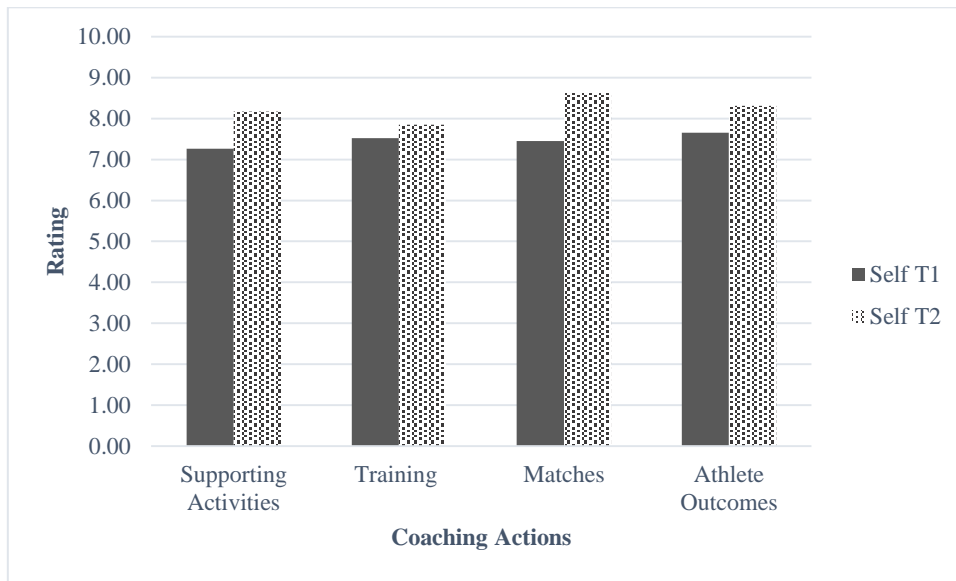
623 *Number of Men and Women Reporting Working in each Coaching Environment.*

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631 Figure 2.
 632 *Self-Perceptions of Coaching Practice over the Programme*
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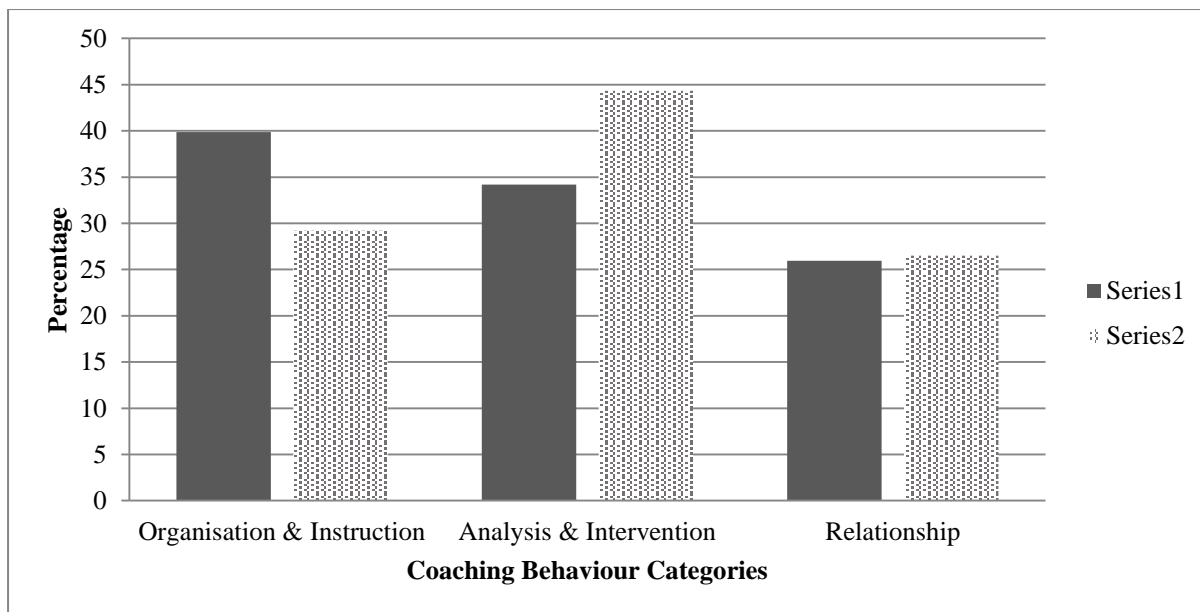


634 Note. Supporting activities: plan, review/adjust, enthusiasm. Training: foster learning environment, keep
 635 information short and simple, foster self-analysis and decision making, apply knowledge to improve players,
 636 analyse and adapt for changing needs. Matches/Game play: keep info short and simple, foster self analysis and
 637 decision making, apply knowledge to improve performance, analyse and intervene for changing situations.
 638 Athlete outcomes: high proportion of focused activity, confident players, skilled players, enjoyment
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647 Figure 3.

648 *Comparison of Coaching Behaviours for One Coach Early and Late in Programme*



649 Note. Organisation & Instruction: organisation, pre-instruction, concurrent instruction, check for understanding.
650 Analysis & Intervention: technical/tactical explanation, positive modelling, negative modelling, specific
651 feedback, questioning, on task observation. Relationship & Motivation: Use of first name, intensify, praise,
652 reprimand.
653