

Exploring forms of life in player development pathways-the case of British rugby league

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**Exploring Forms of Life in Player Development Pathways:
The Case of British Rugby League**

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Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

1 Exploring *Forms of Life* in Player Development Pathways: The Case of British Rugby
2 League

3 The development of skilled adaptive performers is an imperative goal for elite sports
4 organisations across the globe, where player advancement pathways are systematised in the
5 quest to foster world-class athletes (Güllich & Emrich, 2006; Coutinho, Mesquita, &
6 Fonseca, 2016). Although commonplace, the effectiveness of these systematised pathways
7 has been questioned (Güllich & Emrich, 2012; Ryan, 2016; Vaeyens, Güllich, Warr, &
8 Philippaerts, 2009), with concerns raised over the impact on athletes' health and well-being
9 (Lloyd et al., 2015), and their ability to produce skilled performance at the highest level due
10 to an over-systematised coaching approach (Pryce, 2018). This problem is exemplified with
11 insights on the athlete development methodologies of English soccer academies (Calvin,
12 2017):

13 "The statistics are really sobering. Out of all the boys who enter an academy at the age
14 of 9, less than half of 1% make it. Or make a living from the game either. The most
15 damning statistic of all is only 180 of the 1.5 million players who are playing organised
16 youth football in England at any one time will make it as a Premier League pro. That's a
17 success rate of 0.012%."

18 These statistics implicate issues which have been associated with player pathways
19 synonymous with rigid, linear optimal performance models in sport (Phillips, Davids,
20 Renshaw, & Portus, 2010). Viewing player development pathways through a lens of
21 complexity sciences (i.e., the study of complex adaptive systems) exposes how the interacting
22 network of subsystems is open to continuous dynamical interactions during athlete
23 development (Hristovski, Balague Serre, & Schöllhorn, 2014). In this model of skill
24 acquisition and talent development, influential constraints at all levels interact to shape the
25 emergence of expertise in athletes (Araújo et al., 2010). This integrated perspective on

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

26 athlete-environment relations sheds insights on how the interacting network of complex
27 subsystems impacts on athlete development i.e., 1, the microsystem (e.g., practice settings
28 and contexts), 2, mesosystem (e.g., significant others who influence practice settings such as
29 parents and caregivers), 3, exosystem (e.g., organisational influences), and 4, macrosystem
30 (e.g., socio-cultural-historical influences) (Bronfenbrenner, 1979). **Bronfenbrenner's (2005)**
31 **theory of human development suggests that, over time, an individual's development is**
32 **influenced through proximal processes of regular complex interactions between people,**
33 **processes, context and time (PPCT) within these subsystems.** In this complexity sciences
34 model, skill and expertise in sport is enhanced over time in the micro-structure of practice
35 (i.e. the daily, weekly and monthly activities in learning environments), by harnessing the
36 spontaneous self-organising tendencies of a learner which are attracted to stable, functional
37 patterns of behaviour during practice to satisfy task and environmental constraints (Balague,
38 Torrents, Hristovski, Davids, & Araújo, 2013).

39 Task and environmental constraints are boundaries that shape and guide the behaviour
40 of a learner towards a task goal (Newell, 1986). However, little is known about how either
41 category of constraints may influence the views of coaches and athletes during learning,
42 practising, and development (Hassanin, Light, & Macfarlane, 2018). An overlooked aspect of
43 environmental constraints on the design of athlete development programs is socio-cultural-
44 historical influences. This category of constraints is exemplified by the social, cultural, and
45 historical traditions of a nation or region which underpin identifiable performance styles and
46 preferred modes of practice (i.e., backyard cricket in Australia (Cannane, 2010)). These
47 constraints are important in shaping the way athletes engage with learning environments in
48 different sports and physical activities, captured in the structured and unstructured activities
49 which shape learning and development in different societies and nations (for example in the
50 case of Brazilian soccer players; see Uehara, Button, Falcous & Davids, 2016). Rothwell,

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

51 Davids, and Stone (2018) discussed the powerful role that socio-cultural-historical constraints
52 can have in influencing the way coaches' design and deliver the micro-structure of practice. A
53 key point in Rothwell et al.'s (2018) arguments was that highly systematised player
54 development pathways that fail to underpin practice with a theoretical framework of the
55 learning process may be exposed to the dominating influence of socio-cultural-historical
56 constraints that reproduce traditional practice structures, performance habits, and customs of
57 learning and development (Kiely, 2012; Phillips et al., 2010). This reification process may
58 fail to capture the dynamism required in globalised, modern elite sport where a form of
59 'system capture' may inhibit the adoption of innovative environments for athlete
60 development, informed by advances in empirical and experiential knowledge (Chow, Davids,
61 Araújo, & Shuttleworth, in press).

62 An important influence on conceptualising athlete development under different socio-
63 cultural and historical constraints is a 'form of life', introduced by Wittgenstein (1953) to
64 describe patterns in animal behaviour. In regards to human behavioural contexts, a form of
65 life describes common ways of being that "manifest in the normative behaviours and customs
66 of our communities" (Rietveld & Kiverstein, 2014, p. 328-329). Within the context of an
67 athlete development pathway, a form of life describes the values, beliefs, traditions, customs,
68 and behaviours that influence attitudes towards developing expertise in individuals. A form
69 of life should not aim to constrain coaches into designing rigid and suppressive practice
70 landscapes in the challenging task of athlete development. Rather, a form of life in an elite
71 sports organisation can capture a model of the learner and the learning process to integrate
72 the innovations and ideas of sport practitioners, without inhibiting their work. Thus
73 providing boundaries so all coaches within a pathway can be integrated in a theoretical
74 framework which underpins learning and developing in sport, evoking innovation and
75 creativity, that exposes athletes to practice landscapes rich in information so that they can

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

76 interact skilfully with the dynamically evolving ecological constraints of competition (Araújo
77 & Davids, 2011). In this way, a form of life can harness and exploit historical and socio-
78 cultural tendencies which provide a clear identity for modes of expression and performance
79 in sport, underpinned by empirical research advances. A recent example of a form of life
80 positively influencing team performance in sport can be seen by former Queensland Reds and
81 Australian national team rugby union coach Jim McKay. McKay described how he was able to
82 harness a form of life that was influenced by experiential knowledge and the empirical
83 knowledge available in a higher education institution. McKay's work showed how
84 performance analysis data, a theoretical framework of the learner and the learning process,
85 and practice based on experiential and theoretical knowledge, contributed to highly adaptable
86 and effective team play (During this period the Queensland Reds were Super Rugby finalists
87 on three occasions, Australian conference winners twice, and won the 2011 Super Rugby
88 competition [formed of teams from New Zealand, Australia and South Africa]; for details see
89 McKay & O'Connor, 2018).

90 The work of McKay and O'Connor (2018) illustrated how a form of life was exploited
91 to design the micro-structure of practice in rugby union, with clear implications for learning
92 designs in other sports and physical activities. The value of athletes spending time engaged in
93 interactions with practice landscapes rich in information can be understood from the
94 phenomenological concept of a *lived space* (Fuchs, 2007). Using this conceptualisation,
95 athlete-environment interactions provide solicitations (opportunities or invitations) to act
96 (Withagen, de Poel, Araújo, & Pepping, 2012). An important way to understand how athletes
97 should interact with the micro-structure of practice and competitive performance
98 environments, from an ecological dynamics perspective, is to draw on Gibson's theory of
99 affordances. Gibson (1979) introduced the concept of affordances as *possibilities for action*
100 provided by interactions of an individual with the environment. For example, in rugby league

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

101 football a ball offers itself to players for kicking when traveling on the ground or for
102 intercepting with their hands when it is moving through the air; a slow opponent invites a
103 quicker player to run past him/her; a hard pitch offers itself to be sidestepped upon. Recently,
104 Rietveld and Kiverstein (2014) have emphasised the relational account of affordances and
105 abilities available to performers in the variety of socio-cultural practices that are embedded in
106 an ecological niche (e.g., a talent development system). This relational account suggests
107 affordances are broader and more complex than just action possibilities provided by the
108 environment; they are dependent on a form of life in a particular ecological niche. Crucially,
109 a form of life can be "shaped and sculpted by the rich variety of social practices humans
110 engage in" (Rietveld & Kiverstein, 2014, p. 326), which can be influential in how individuals
111 develop a functional relationship with the surrounding environment to utilise relevant
112 affordances (Reed, 1996). In the context of sport performance, an individual is considered
113 skilled when s(he) responds to multiple relevant affordances (solicitations) simultaneously,
114 during practice or in competition (Bruineberg & Rietveld, 2014). Increasing the strength of
115 coupling to specific affordances in a landscape is the basis of skilled performance during
116 athlete development (Withagen, de Poel, & Araújo, 2017). It is important therefore, for
117 learning designers, managers, and coaches in player development pathways to understand the
118 influence of socio-cultural-historical constraints on the developmental trajectories of athletes
119 in a particular ecological niche.

120 Although environmental constraints can have a powerful influence on learning,
121 developing, and performing in sport, research exploring the relationship between socio-
122 cultural-historical constraints and athlete development is limited (see Araújo et al. (2010) for
123 an exception). The team sport of rugby league football provides an interesting research
124 context to study this relationship. The sport's roots emanate from the industrial north of
125 England where playing regions were built on the key industries of the Victorian era (1837 to

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

126 1901). Industrial workhouses were the backbone of these working class communities
127 (Collins, 2006), where notions of masculinity, cooperation, knowing your place in the
128 hierarchy, and rigid attention to routine were a strong feature of everyday work life. An
129 emphasis on adopting these collective values in sport can provide a clear boundary around
130 how players, strongly influenced by their socio-cultural-historical environment, achieve an
131 identity in the sport.

132 Therefore, the aim of this study was to explore the form of life in British rugby league
133 football player development contexts to: 1) understand the dominant social, cultural, and
134 historical constraints within the sport; and 2), interpret how the dominant socio-cultural-
135 historical constraints currently influence the design of practice tasks and the development of
136 rugby league players in the UK.

137 **Method**

138 **Research design**

139 To explore the socio-cultural-historical constraints that are harnessed to create a form
140 of life, Atkinson (2017, p. 51) has suggested that researchers must first "theorise the
141 connection between actions of people in social settings and the social, economic, and political
142 structures within which those actions occur". With Atkinson's challenge in mind, Smith and
143 Sparkes (2016) have recommended the use of individual semi-structured interviews because
144 they present opportunities for participants to share their experiences about the matter in
145 question, namely the form of life in British rugby league football player development
146 pathways. Here, coaches from across the sport were interviewed due to the important role
147 they play in the development of athletes (Burgess & Naughton, 2010; Christensen &
148 Henriksen, 2012), providing an important perspective to help explore the form of life in the
149 sport.

150 **Participants**

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

151 Purposeful sampling was employed to recruit participants ($n =$ Twenty-four) for the
152 study (Patton, 2002). All participants were current coaches holding United Kingdom
153 Coaching Certificate (UKCC) rugby league coaching qualifications, had extensive experience
154 of coaching rugby league and, in most cases, played rugby league to professional or amateur
155 levels. To explore forms of life that represented all environments that British rugby league
156 players typically develop in, coaches were interviewed from the professional game ($n = 8$),
157 talent development pathways ($n = 9$), and the community game ($n = 7$). Professional coaches
158 had experience of coaching internationally ($n = 3$), coaching in the British Super League ($n =$
159 5), and the British Championship ($n = 3$). All professional coaches were qualified under the
160 UKCC qualifications, with 4 coaches achieving the Level-4 qualification (highest level) and
161 4 coaches achieving the UKCC Level-3 qualification. All talent development coaches were
162 employed full time in their respective positions and had experience of managing and
163 coaching in a Super League Academy, and 4 of the coaches had experience of coaching at
164 international youth level. Eight of the talent development coaches had achieved the Level-4
165 qualification and 1 coach had achieved the UKCC Level-3 qualification. All the community
166 game coaches held voluntary positions with a community rugby league club and had
167 achieved the UKCC Level-2 qualification. Four of the coaches also had experience of
168 coaching on a talent pathway in a part time voluntary capacity. Institutional ethical approval
169 was granted by a university board with all participants providing informed consent prior to
170 the commencement of the interviews.

171 **Data collection**

172 The semi-structured interview guide was informed by theory (Araújo et al., 2010;
173 Davids & Baker, 2007), and the first author's knowledge of rugby league coaching and
174 professional rugby academy environments. Interviews were conducted face to face on an
175 individual basis with the coaches and lasted an average of forty-one minutes. During data

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

176 collection, all interviews were audio recorded in their entirety and transcribed verbatim, with
177 permission of the participants. Of specific interest were the conversations about the social,
178 cultural, and historical contexts in which rugby league players develop (e.g., "Can you tell me
179 about the culture of coaching and player development practices in rugby league?"/ Why is it
180 like that?; Where do those methods come from?"), the design of practice tasks (e.g., "Can you
181 tell me about the coaching methods you use?"; "What might a coaching session look like
182 when adopting these methods?"). We were also interested in how these factors influence the
183 development of rugby league players (e.g. "How does this coaching culture influence how
184 players develop in rugby league?"). Probe questions were used to explore these areas further.

185 **Data analysis**

186 Thematic analysis was used to identify themes across the dataset. In carrying out the
187 thematic analysis the research team did not adopt an 'either or approach' (i.e., inductive or
188 deductive), rather, a more pragmatic line was followed that included inductive and deductive
189 approaches (Braun, Clarke, & Weate, 2016; Robertson et al., 2013), where a two-staged
190 thematic analysis was employed to analyse the collected data set. The first coding stage
191 followed deductive analysis by using Bronfenbrenner's (1979) bioecological model to
192 organise the dataset into four dimensions (i.e., microsystem, mesosystem, exosystem, &
193 macrosystem). Once the data set were organised into the four areas and accepting that theory-
194 free knowledge cannot be achieved (Guba & Lincoln, 2005), both inductive and deductive
195 analysis was used. For example, during the analysis some experiences expressed by the
196 participants provided very clear and appropriate meaning without the use of a theoretical
197 framework to interpret the findings (inductive). Conversely, other experiences were
198 interpreted from a theoretical position (deductive), due to the findings representing relevant
199 meaning in regards to the performer-environment relationship. During the analysis an

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

200 independent critical friend was employed to engage in dialogue with the first author,
201 providing opportunities for reflection and feedback on interpretations.

202 **Results**

203 Results from the interviews with the three coaching cohorts are presented together
204 according to the final themes derived from the analysis, which are: 1, microsystem, 2,
205 mesosystem, 3, exosystem, and 4, macrosystem (Figure 1). This mode of presentation was
206 used to reflect the interconnected nature of the coaching environments and the influence on
207 developing rugby league players.

208 INSERT FIGURE 1 HERE

209 **Microsystem**

210 The microsystem is the foundation level of Bronfenbrenner's model, and categorises
211 the micro-structure of practice (patterns of activities and performance opportunities)
212 experienced by the developing individual daily, weekly and monthly in their professional
213 experience. Here, the microsystem categorises common approaches to practice task design in
214 rugby league. This was important because it initiated the description of the variety of practice
215 tasks that players experienced during practice.

216 **Practice task design.** The analysis revealed similar views on the type of attributes
217 that players should possess to engage skilfully in the game of rugby league, for example,
218 basic skills of catching, passing, tackling, and decision making skills. However the process of
219 developing these skills revealed a range of views, beliefs, and approaches to designing and
220 delivering practice tasks. Participants' responses indicated a continuum of practice task
221 designs with more reported coach-led sessions which were highly dependent on coach
222 instruction and feedback. Less reported were coach-facilitated sessions that placed the
223 emphasis on the players to solve problems during practice. Here, a coach provides insights

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

224 into a coach-facilitated practice task aimed at transferring skills from practice to competition,
225 with physical, psychological, and emotional dimensions:

226 So like you can just go 6 v 6, this is an offloading game we will referee it, you must get
227 two offloads in the set of 6. You work it out. If it is not a good offload you'll hand it
228 over. How do you create the offload? How do you create the space for the offload?
229 How do you get the support there? Leave that with you". And that is a skill game and
230 then they can transfer that. Not going right this is 6 v 6 you have got to play on A, you
231 have got to play on C, you have got to play out the back and that might create an
232 offload. Go and work it out yourself. We haven't got enough of that (coaching
233 approach). (Talent Development Coach 8 (TDC8))

234 Other accounts discussed coaching approaches that were more coach-led and drill-
235 orientated, focusing on prescriptive and strict technique training. A coach elaborates:

236 They are very much you need this many repetitions of this way or we need to get our
237 dummy half passing better. So all we do is we will hammer a static dummy half pass,
238 not to a moving target or anything like that, or tackle technique for example. A tackle
239 technique of what it is needed and that's prescribed and it needs to look like this and
240 that's it. (Community Coach (CC6))

241 Further insights into coach-led and drill orientated approaches suggested that coaches
242 used progressive teaching methods to support skill learning. This approach was categorised
243 as progressing from high levels of instruction to teach the component parts of a skill, to more
244 game like practice to put the skill under pressure. A coach exemplifies:

245 We have the very basic technique in terms of actually teaching them the actual skill
246 first. So how do you tackle with your right shoulder, where does your right foot go?
247 Where does your body weight transfer, where does your legs go, where does your
248 hands sit, all that sort of stuff. So doing it at a very basic level is really important. Then

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

249 doing that skill under pressure. Once they have mastered that we start putting that skill
250 under pressure so I think for me skills under pressure is the biggest one moving forward
251 for a person once he has learnt how to do it in a controlled environment then being able
252 to do it and repeat it under a little bit of pressure so that might be in a drill what speeds
253 up, it might be in a small sided game, it could be actually even in a game, but what I am
254 trying to say is that you develop that skill as you go along but you have got to teach me
255 first. (Professional Coach 7 (PC7))

256 **Mesosystem**

257 Bronfenbrenner (2005) defined the mesosystem as the relations between two or more
258 microsystems that the developing individual spends time in. The value of studying the
259 mesosystem is to help us understand how multiple settings may influence views of learning,
260 practising and developing in sport, of practitioners and athletes. Here, we identified
261 interacting microsystems as multiple practice settings experienced by players and coaches
262 simultaneously, and the social influence exerted by parents.

263 **Parents.** Within the mesosystem of rugby league, talent development and community
264 coaches identified parents as playing an influential role in the form of life. Talent
265 development coaches reported parents establishing indirect influence on practice design.
266 There were cases of coaches adapting practice sessions to appease parents' perceptions of
267 'professionalism' in the practice designs for their children through the replication and
268 rehearsal of professional playing styles, known as "shapes" (highly structured sequential
269 patterns of play). A talent development coach explains that working on skills to play the
270 game as opposed to playing styles, although developmentally appropriate, was problematic
271 due to the expectations set from previous practice experiences at community clubs and
272 parents' perceptions and beliefs of professionalism in coaching behaviours:

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

273 I'm going to do a little work on shapes just because that's what they expect. They've
274 had it at community clubs; it's what the parents expect to see. It's really hard to sell this
275 idea at times that you working on catch and pass is really, really important. They think
276 well yeah we can do that anywhere else why aren't you doing that at xxxxxxxxxx
277 (professional club). So that sometimes messes with philosophically where you'd like to
278 get as well you know. (TDC4)

279 **Multiple Practice Settings.** The relationship between microsystems in the form of players
280 transitioning between community clubs and talent development environments (mesosystem)
281 presented challenges for talent development coaches. In some instances players would move
282 between coaching environments that valued different pedagogical approaches to providing
283 instructions and feedback, where coaches adopted either facilitative or prescriptive methods
284 to support player learning. For example, players not being able to "interact with the coach"
285 due to the normalised prescriptive approach in their community club presented challenges
286 with autonomy during practice because they "needed to be told what to do" (TDC5). A coach
287 explains challenges with players regularly transitioning between different coaching
288 environments:

289 You would pull the kids in from clubs and their culture within their coaching
290 environment there has been this questioning challenging (type of) development, these
291 kids have had it. These other kids where there has been this authority and you will do as
292 I tell you sort of mentality didn't say boo to a goose, would not answer a question and
293 at points I had to go right you three shut up, you shut up, right what could we have done
294 better there? (TDC5)

295 **Exosystem**

296 The exosystem explains the relationship between two or more settings that indirectly
297 influence the experiences of individuals in the microsystem (i.e., settings that do not include

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

298 the developing individual) (Gabbard & Krieb, 2012). Our analysis highlighted how coaches'
299 experiences of informal learning and formal learning influenced views and attitudes towards
300 learning, practising and developing in rugby league.

301 **Informal learning.** The analysis revealed that coaches valued informal learning experiences
302 (i.e., watching other coaches and online social networks) during their early development
303 phases as a coach. The primary mode of informal learning was reported as peer learning; this
304 method of learning was the main source in constructing coaching and talent development
305 knowledge. Interestingly, this method of learning decreased as coaches became more
306 experienced, and they then assumed a mentorship role supporting less experienced coaches in
307 their development. A coach provides insights into informal learning experiences during the
308 formative years of his coaching career:

309 The first professional coach was xxxxx xxxxx who had come over from Australia.
310 xxxxx xxxxx was like way, way ahead of his time. Ex-school teacher but an
311 unbelievable Rugby League brain as well so he had the way of being able to educate
312 and teach people properly for us to understand what we wanted but obviously he had
313 a vast knowledge above and beyond what was anything in England at that time. So I
314 was really fortunate, my two first real influences were the major ones was my dad
315 obviously in that field (coach education) and then xxxxx xxxxx so from the very early
316 age that is what I thought coaching was. (PC2)

317 **Formal learning.** Formal learning was reported as coach education and higher education. All
318 participants had accessed United Kingdom Coaching Certificate (UKCC) rugby league
319 qualifications during their development as a coach. Although the coaches were supportive of
320 coach education, some were critical about these qualifications in developing appropriate
321 methods to support athlete learning, a coach explains:

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

322 The current coach education process that they (coaches) go through doesn't support any
323 other approach (than a traditional linear approach). I don't think the coach education
324 programme what they go through is fit for purpose and reinforces a lot of traditional
325 methods. One hundred per cent of pass a ball you need to do X, Y and Z and if they
326 don't do that it's wrong. There's no real promotion of games based activity. There's no
327 promotion of different coaching styles it is a kind of one box suits everybody badge.

328 (CC3)

329 Coaches who had accessed higher education through taking undergraduate and
330 postgraduate degree courses (whilst coaching), considered these learning experiences
331 beneficial in constructing their epistemological beliefs about effective talent development
332 systems and practice designs. Here the combination of coaching experience, peer interaction
333 (interaction with coaches from other sports during higher education), and the intellectual
334 content of the degree courses served as powerful learning experiences, stimulating them to
335 challenge the status quo within the environments the coaches operated in. However, the
336 reality of transferring newly-learned pedagogical knowledge into practice proved
337 challenging, described here by a coach:

338 I'd say typically anyone who has got that kind of philosophy and done the Level 4
339 would struggle to put that into practice in the typical club environment because it goes
340 against what's the norm and people don't recognise or are not willing to engage or buy
341 in or look into a different approach. So you are kind of between a rock and a hard place,
342 having some knowledge around that and wanting to put that into practice but you are
343 not being able to is where I could see myself. (PC5)

344 **Macrosystem**

345 The macrosystem is the outermost layer of Bronfenbrenner's bio-ecological model
346 (Tudge et al., 2016). Although other systems within the model focus on the proximal

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

347 processes between people and context, the macrosystem focuses on the wider culture and its
348 influence on everyday beliefs, values, attitudes, actions and practices (Rosa & Tudge, 2013).
349 The analysis of the macrosystem revealed two dominant ideologies that exist in UK rugby
350 league coaching and player development, which can be understood through the wider socio-
351 cultural-historical backdrop of the sport in that country (Hassanin, Light, & Macfarlane,
352 2018). These culturally-constructed beliefs were identified as *masculinity* and *replication*.
353 Coaches described how these dominant ideologies impacted upon the coaching and player
354 development practices and the individuals who played the sport at all levels.

355 **Masculinity.** The analysis suggested that coaches believed masculinity was synonymous
356 with rugby league football. Coaches raised concerns over the interrelated nature of
357 masculinity and physicality, suggesting that a cultural emphasis on players' physical
358 attributes was reflected in the selection of junior and adolescent players onto player
359 development pathways (i.e., the overrepresentation of physically developed players). The
360 reproduction and entrenchment of masculine socio-cultural values could also mean that
361 players who do not fit the system may fail to access further player development opportunities
362 and not fulfil their potential as an athlete. A coach elaborates on this point:

363 When we had a talent day a few weeks ago 42 players come. 29 of them were back
364 rowers or middles and every single one was massive. So basically our clubs are picking
365 the biggest kids that are ready to play scholarship rugby now, then they are picking the
366 biggest kids that are ready to play Academy. It is all based around gym, being physical,
367 wrestle, tackle and not many have the guts and foresight to say what I am going to take
368 Martyn as a 15 year old to 19 year old. I want to work on skill development, that's it.
369 (TDC1)

370 In addition to the influences of a masculine culture on the selection of players, coaches
371 also discussed how masculine ideals are reflected and reinforced through practice

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

372 environments, where concerns were raised over the type of players a "brutal" environment
373 would produce. A coach explains:

374 Now I know there are schools of thought out there of make it as brutal as you can. They
375 (players) will end up buying into it by default and then they will have to do it. If they
376 don't do it you will get somebody else in, but I am not sure whether that is going to
377 actually develop the sort of decision making players that are required to kick on and
378 play at a really high level consistently. (CC6)

379 **Replication.** Replication characterises the imitative culture within British rugby league and
380 its reproductive playing styles. Coaches believed that one particular reproductive playing
381 style was common across all levels of the game and expressed concerns about the over
382 systematisation of players' behaviours to adopt this movement template, regardless of age or
383 stage of development or individual capacities. A coach discusses the danger in the
384 entrenchment of a one-size-fits-all approach:

385 There's a lot of different contributing factors to why we don't produce them (highly
386 skilled players) and again you know the way we train them, we don't coach them. We
387 don't allow people to develop expressive skill, we don't allow people to find the
388 solution to situations and decision make enough, we put in structure from an early age.
389 You're a winger, you're halfback, you're a centre, you're a back row, that's what
390 you're doing, this is where you play to, that's a point you get to and this is the line you
391 run. (CC6)

392 The participants also expressed their concerns about the impact this approach had on
393 developing players' autonomy and independence. A coach offers an explanation in regards to
394 the consequences of a systematised playing style:

395 We haven't trained them in the ability to solve their own problems, their own
396 challenges, their own issues. There is no self-analysis. Somebody else is going to do

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

397 your analysis for you, aren't they? I think that no independent thinking, all regimented,
398 all controlled. (PC4)

399 **Discussion**

400 While an interacting network of complex subsystems in a player development
401 pathway is to be expected. Here, guided by the framework of Bronfenbrenner's (1979)
402 bioecological model, the aims of this study was to explore the form of life in British rugby
403 league football player development contexts to: 1) understand the dominant social, cultural,
404 and historical constraints within the sport; and 2), interpret how the dominant socio-cultural-
405 historical constraints influence the design of practice tasks and the development of rugby
406 league players in the UK.

407 **Socio-cultural-historical constraints and competing forms of life**

408 As with any cultural phenomenon, sport coaching and player development practices
409 are habituated by wider political and cultural contexts (Day, Carter, and Carpenter, 2013).
410 Industrialisation during the nineteenth century was considered to influence social structures
411 and trends, and rugby league culture was considered "resilient" and "self-replicating"
412 (Collins, 2006, p. 143). Therefore, it is perfectly logical that developments in rugby league
413 football were a cultural response to the synergistic relationship and proximal processes
414 between people, context, and attitudes formed by the historically-situated connection between
415 the workplace practices of the Victorian industrial industries and rugby league communities.
416 These communities were considered to be "shaped and defined by the world of industrial
417 labour, which was intensely physical, often aggressively oppositional to management and,
418 above all, almost absolutely masculine" (Collins, 2006, p. 149). In addition to these
419 masculine working conditions, repetitious daily tasks in industrial workhouses were largely
420 influenced by Frederick Winslow Taylor's 'task system of management' (Taylor, 2008),
421 which aimed to remove manufacturing uncertainty by applying hierarchal systems of control

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

422 through rigid role specification and task repetition (Taylor, 1911). These ways of working in
423 the industrial workhouses are synonymous with traditional coaching practices, where "every
424 workman" was given "600 instructions a day" to ensure that all assigned tasks were carried
425 out (Taylor, 2008, p. 215).

426 Although *replication* and *masculinity* appear to act as powerful socio-cultural-
427 historical constraints that dominate and organise player development contexts in rugby league
428 football, the analysis highlighted how the complex and multiple forms of life collide,
429 compete and often reroute one another. Consistent with research into holistic ecological
430 approaches to developing athletes in sailing (Henriksen, Stambulova, & Roessler, 2010),
431 these interpretations highlight how, not one, but all interacting subsystems **and the proximal**
432 **processes that occur within these systems** (which include, but are not limited to,
433 environments that the developing athlete are active in) can influence player development
434 (e.g., parents, coach education, higher education, multiple practice settings, and wider socio-
435 cultural-historical constraints (Krebs, 2009). Therefore, managers and coaches in player
436 development pathways should look beyond the immediate environment that athletes develop
437 in (i.e., the microsystem of practice), and identify constraints across interacting systems that
438 impinge on the potential and characteristic features of human performance in a specific
439 society and community (Phillips, Davids, Renshaw, & Portus, 2010).

440 **Influences and challenges to practice task design**

441 Consistent with previous research findings, informal learning was reported as the
442 preferred method of coach learning (Stoszkowski & Collins, 2016). Participant reports
443 indicated how this method of learning served as a conduit to indoctrinate and perpetuate the
444 dominant coaching method, where parallels between forms of life in industrial Taylorist
445 practices and traditional coaching methods (i.e. high levels of instruction and direction, rigid
446 practice structure and continuously repetitive practice) (Ford, Yates, & Williams, 2010) are

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

447 apparent. In this informal model of learning, the hierarchy of coaching status and personal
448 characteristics of the 'owners of knowledge' are influential in shaping coaches beliefs and
449 attitudes. The power of these proximal processes between people is influenced by personal
450 resources (i.e., experience, status, and ability) and the demand characteristics that invite or
451 discourage the action of proximal processes (Bronfenbrenner & Morris, 2006).

452 Although informal learning activities within sport coaching are accepted as a
453 legitimate method of coach development (Jones, Armour, & Potrac, 2004), this method of
454 learning can be problematic because it is often grounded in a naïve epistemology and is,
455 therefore, open to the influence of anti-intellectual forms of life that have deep rooted values,
456 beliefs, traditions, and customs of coach learning (Grecic & Collins, 2013; Abraham, Muir, &
457 Morgan, 2010). Understanding the mechanisms through which these beliefs of learning and
458 the learning process are acquired is important to identify, challenge, or embrace the forms of
459 life that underpin practice task design for better or for worse (Light & Evans, 2013).

460 Consistent with research into junior rugby league coaches' perceptions of formal
461 learning, participants criticised the content and suitability of the level 1 and 2 coach
462 education curriculum (Seddon & Stoszkowski, 2017). More specifically, these criticisms
463 were aimed at a *one size fits all* approach to teaching basic skills through isolating techniques
464 and drill based practice. A challenge to the rugby league coach education curriculum was the
465 professional and talent development coaches' experiences of higher education (exosystem). A
466 useful example relates to the experiences of Jim Mckay (Mckay & O'Connor, 2018), where
467 complex and sophisticated ecological views of the learner and the learning process were
468 developed by critical thinking and reflecting on years of practical experience. Here, the
469 combination of coaching experience and the intellectual content of the degree courses served
470 as powerful learning experiences (Gallimore & Trudel, 2009). Interestingly, coaches'
471 accounts of higher education revealed a sense of relief to *break out* of the closed circle of

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

472 rugby league coaching and development (Piggot, 2012), where a fixed body of socio-
473 culturally constructed knowledge was maintained, but rarely challenged, by its occupants.
474 This culture of learning through reproduction, which is also evident in other sports (e.g.,
475 Cushion & Jones, 2006), left some coaches feeling tentative about challenging the status quo
476 within the environments they operated in. These concerns were attributed to a fear that the
477 socio-culturally constructed form of life that they are embedded within may resist the
478 introduction of a different methodological framework for developing athletes (Jones, Potrac,
479 Cushion, & Ronglan, 2011).

480 **Development of rugby league players**

481 Consistent with the findings of Coupland (2014), coaches believed a culture of
482 masculinity and valuing physical attributes was apparent in rugby league football, taking
483 performance expectations along a path of over-valuing and over-emphasizing physical size,
484 power, and strength, rather than emphasizing skill, innovation, and dexterity. This emphasis
485 is exemplified by participation and attainment inequalities being influenced by attitudes
486 towards selection and recruitment to scholarships, academies, and professional squads, based
487 on physical and maturational attributes (Till et al., 2010). **This bias towards physical**
488 **attributes demonstrates the reciprocal nature of proximal processes (Bronfenbrenner &**
489 **Morris, 2006), where influences come not only from the gatekeepers of performance**
490 **programmes and teams (i.e., coaches, talent scouts and performance managers), but also the**
491 **developing individuals who value and maintain the strong masculine cultural identity**
492 **(Pringle, 2008).**

493 Being embedded in a form of life that values physical and maturational characteristics
494 can also impact upon the weekly development practices (micro-structure of practice) that
495 players experience. When aiming to produce masculine bodies, controlling practices
496 consistent with Taylorism, promote de-contextualised coaching methods designed to improve

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

497 human movement and sport performance (Coupland, 2014). To understand how these
498 methods influence the development of players we draw upon Gibson's theory of affordances.

499 The hierarchical and suppressive view of the workforce applied to sport performance
500 could be considered problematic because in both contexts the practices emphasise the
501 reproduction of actions rather than the *continuous interactions* of workers/athletes with
502 affordances of their work place. The cross-fertilisation of management methods in industry,
503 and coaching in professional sport, may have historically resulted in athletes being prevented
504 from developing autonomy, independence, and exploring the affordance landscape during
505 practice and performance to solve problems and act on emergent decision making
506 opportunities (Renshaw, Davids, & Savelsbergh, 2010). The consequences of over-
507 systematising human behaviour have been well documented (Smith & Davids, 1992; E.
508 Gibson, 1994), where a view is held that it can be analysed and understood in mechanistic
509 terms (Withagen et al., 2017). The problem with this view in a sport performance context is
510 that competition is highly unpredictable and dynamic, and therefore requires athletes to
511 develop adaptable behaviours to negotiate dynamic competitive performance environments
512 (Hristovski, 2017). A form of life that adopts mechanistic frameworks of human behaviour
513 underpins the view that acting in the world is reliant on external agency (i.e., high levels of
514 instruction and feedback (Ford, Yates, & Williams, 2010). Withagen et al. (2017) have
515 criticised this view, and suggested that the concept of agency ("the self in control" (E.
516 Gibson, 1994, p. 71)) is central to the invitational nature of affordances. The implication is
517 that not all affordances solicit behaviour, rather solicitations are dependent on the intentions,
518 behaviour settings, and action capabilities of the individual to utilise affordances (Kaufer &
519 Chemero, 2015; Withagen et al., 2012).

520 In contrast, a form of life predicated on player exposure to 'affordances as invitations'
521 supports the use of practice task designs to provide opportunities for learners to strengthen

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

522 their couplings with available affordances. The lived spaces (coaching environments) that
523 emerge out of, and are maintained by, the collective behaviours of its occupants (Heft, 2001)
524 (i.e., players' expectations of practice and coaches beliefs), can strongly influence the
525 available affordances that players utilise and are responsive to during practice and
526 competition (Kaufer & Chemero, 2015). Utilising affordances is an individual's primary
527 mode of interacting with the environment (Dreyfus & Kelly, 2007), although suppressive and
528 coach-imposed direction may present a narrow field of affordances (i.e., narrowing an
529 athlete's intentions on a field of action opportunities) that limits a player's relationship with
530 performance under competitive constraints. Sometimes this may be needed in a microsystem,
531 but this pedagogical approach is traditionally considered a dominant, 'default' mode of
532 coaching in sports like rugby league (Chow et al., in press).

533 **Limitations**

534 These results do not mean that we are able to generalise across the rugby league
535 population because interviews alone may lack the "intimate details of human life" (O' Reilly,
536 2009, p.100). The results can be used, however, as a start point for other research that
537 examines forms of life in sport systems and the socio-cultural-historical constraints that both
538 create and sustain player development practices (Jones, Armour, & Potrac, 2003). We
539 recommend that future research should employ ethnographic methodologies to develop a
540 broader and deeper understanding of the relationship between a form of life and affordances.
541 Situating future studies in the ecology of a player development pathway, may provide
542 insights into how social, cultural and historical influences can be challenged to provide
543 appropriate athlete development environments.

544 **Conclusion**

545 This study highlighted how interacting subsystems in player development pathways
546 collide to create many forms of life in sport, which results in conflicting beliefs and attitudes

Running head: FORMS OF LIFE IN BRITISH RUGBY LEAGUE

547 towards coaching and player development. This situation can favour traditions of practice
548 over a theoretical framework of learning and developing, influencing the relationship
549 between an athlete and available affordances in practice and competition. The relationship
550 between a form of life and affordances is a valuable conceptualisation of human behaviour,
551 providing a powerful theoretical framework to understand the influence of socio-cultural-
552 historical constraints on an athlete's interaction with the ecology of competitive sport. These
553 theoretical insights have major implications for coaches and performance managers when
554 designing programmes that aim to enhance performance and develop high performing
555 athletes, where athlete potential may not be fulfilled. Coaches, players, and performance
556 managers should also consider the form of life when transitioning between programmes or
557 moving between clubs or teams (e.g., national to international levels), where the form of life
558 might not fit their views on learning, development or ways of performing in competition. A
559 major issue is the dissonance that may exist at the mesosystem levels where different
560 microsystems (e.g. naïve beliefs or expectations about pedagogical approaches held by
561 parents and sports administrators) may impinge on the capacity of coaches to use evidence-
562 or theory-based pedagogical methods in practice task designs.

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