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1 **Research Note: Toward an understanding of players' perceptions of talent development**
2 **environments in UK female football**

3 There are longstanding suggestions that for football players to develop, they need to be in a
4 talent development environment (TDE) that is commensurate with their needs (e.g., Williams
5 & Reilly, 2000). Martindale, Collins and Daubney (2005) suggested that TDEs have four key
6 characteristics: (1) long-term aims and methods, (2) wide-ranging coherent support and
7 messages, (3) emphasis on appropriate development rather than early selection, and (4)
8 individualised and ongoing development. Adding to this, Alfermann & Stambulova (2007)
9 suggested that a successful TDE is one which continually produces top-level athletes from
10 their junior ranks, and provides them with the resources for coping and future transitions.

11 Recently, scholarly examination of talent development environments (TDEs) in
12 football has increased significantly (e.g., Ivarsson, Stenling, Fallby, Johnson, Borg, &
13 Johansson, 2015; Mills, Butt, Maynard, & Harwood, 2014a; 2014b). In their study of a
14 successful TDE in men's football in Denmark, Larsen, Alfermann, Henriksen, and
15 Christensen, (2013) stated that the TDE was characterized by a strong, open and cohesive
16 organizational structure that considered the player on a holistic level. Further, in English male
17 football academies, expert male coaches reported that a strong organizational core,
18 adaptability, prioritising player welfare, key stakeholder relationships, involvement, and
19 being achievement orientated are all qualities of optimal TDEs (Mills et al., 2014b). Despite
20 the relatively consistent reporting of these as qualities of optimal TDEs, players' perceptions
21 can be that their TDEs do not always demonstrate such qualities. One study (Mills et al.,
22 2014a) examined 50 male players' perceptions of their TDEs in the English Premier League
23 and Championship. Mills and colleagues noted that academies were viewed as strong in areas
24 linked to coaching, organisation and football-related support; whereas understanding the
25 athlete, links to senior progression and key stakeholder relationships were viewed less

1 positively. Notably, 65% of players reported thinking that players were written off before
2 having the opportunity to fulfil their potential. This has implications for holistic player
3 development, as TDEs viewed as having a long-term development focus are associated with
4 greater player wellbeing (Ivarsson et al., 2015). Each of these studies investigating players'
5 perceptions of football TDEs have drawn predominantly (e.g., Ivarsson et al. 2015) or solely
6 (e.g., Larsen et al. 2013; Mills et al., 2014a) on male populations. This is an example of the
7 reported under-representation of female players in football research (Gledhill, Harwood &
8 Forsdyke, 2017); which, in turn, reinforces the need for female players to gain a greater
9 research presence. As male and female athletes have qualitatively different developmental
10 experiences (Gill, 2001) and there are sociocultural differences between male and female
11 football in the UK (Caudwell, 2011), the findings gleaned from male football environments
12 may not be directly applicable to UK female football. Consequently, investigating UK female
13 players' perspectives would provide a contextually specific evidence-base to inform applied
14 practice (Stambulova & Ryba, 2014).

15 Whilst still limited in volume and depth, scholarly interest in female talent
16 development (TD) in England has manifested a slight increase. In their study of four elite
17 English female youth football players, Gledhill and Harwood (2014) reported that coaches
18 not understanding players' needs was a reason for players changing their TDEs in the hope
19 that this change may enhance their chances of reaching an elite level. In their later,
20 retrospective research including 13 UK female football players, Gledhill and Harwood (2015)
21 noted that poor coach-player communication and prominent opinions of key stakeholders
22 were perceived by players to hinder their chances of reaching an elite level. Despite
23 providing insight into the developmental experiences of UK female football players, the
24 small sample sizes as well as the interpretive nature of Gledhill and Harwood's (2014; 2015)
25 work calls into question how representative their findings were of the female football TDEs

1 in England. A more representative understanding support practitioners in making appropriate
2 changes to applied practice in female football TDEs, with a view to enhancing TD for female
3 players. This is particularly important, given that TDEs are one of the most directly
4 controllable factors associated with a player's development (Mills et al., 2014a). Therefore,
5 the aims of this research note are to examine female football players' perceptions of their
6 TDEs as well as any differences in different types of UK-based female football TDES, with a
7 view to providing an understanding of strengths, areas for improvement and applied
8 recommendations.

9 **Method**

10 **Data collection.** Following ethical approval from a UK Higher Education Institution,
11 every Football Association Licensed Girl's Centre of Excellence (CoE) and Football
12 Association Women's Super League (FAWSL; the professional women's league in England)
13 Development Squads (DS) club was contacted via e-mail during the 2014/15 football season.
14 This equated to 47 organisations being contacted through initial enquiries. Players were
15 eligible if they were aged 13-21 and representing one of these organisations. From these, 14
16 different TDEs from dispersed geographical locations in northern, midlands and southern
17 England agreed to participate. This provided a total potential research population of 316
18 talented female football players, of which 137 participated (Mage = 16.06, SD = 1.90;
19 response rate = 43.4%). The offer to participate was refused by club representatives for the
20 following reasons: insufficient time to administer (n=2); insufficient players of an appropriate
21 age (n=1); too many requests of this nature to facilitate the study (n=2); already part of a pilot
22 project (n=1); players already taking part in other research and do not want to impose too
23 many demands on them (n=1); not wanting to set a precedent by facilitating one study that
24 would lead to multiple requests that would have to be facilitated (n=1); and having an
25 exclusivity agreement with another UK institution meaning that players are only allowed to

1 take part in research with that institution (n=1). The remaining organisations did not respond
2 to either initial or follow-up invitations.

3 Perceptions of TDEs were collected using the Talent Development Environment
4 Questionnaire (TDEQ; Martindale et al., 2010). Subscale details can be found in tables 1 and
5 2. Eight players did not complete the survey sufficiently (e.g., players only completed the
6 demographic details), so were removed from the dataset per the consent and assent
7 arrangements. Of the 129 remaining players, 83 were CoE players and 46 were DS players.

8 **Data analysis.** Data was analysed using sequential mixed-methods analysis. First, we
9 conducted a descriptive analysis of items and subscales. For ease of use, TDEQ items were
10 coded so that a value closer to 1 = a more negative perception of the item whereas a value
11 closer to 6 = a more positive perception (cf. Ivarsson et al., 2015; Mills et al., 2014a).
12 Second, differences in the TDEQ subscales between playing group (CoE and DS) were
13 assessed using Multi-Variate Analysis of Variance (MANOVA), with Bonferroni correction
14 used to protect against type 1 error. Third, quartiles were used to facilitate identification of
15 key strengths and areas for improvement in female football TDEs. The top 25% of items were
16 taken as key strengths and the bottom 25% as opportunities for development. Finally, we
17 conducted a qualitative content analysis of the lowest scoring 25% of statements to produce
18 meaningful applied opportunities for development for female football TDEs.

19 **Results**

20 The results are organised into two sections. In line with recommendations for use of
21 the TDEQ in applied research (e.g., Martindale et al., 2010; Mills et al., 2014a) we first
22 present a descriptive analysis of the TDEQ and subscales. Second, we present the inductive
23 content analysis to communicate meaningful applied implications for sport psychologists.

24 **Perceptions of TDEs: subscale analysis**

1 Table 2 shows subscale means. A priori, we agreed that a subscale mean of 4/6 or
 2 above would indicate a strength in the TDE. Players had most positive perceptions of long-
 3 term development focus ($M=4.665$, $SD=1.166$) and support network ($M=4.249$, $SD=1.341$),
 4 whilst the least positive perceptions centred on communication ($M=3.853$, $SD=.893$) and
 5 understanding the athlete ($M=3.859$, $SD=.786$). MANOVA results using Pillai's Trace
 6 showed that there was no significant difference in TDEQ subscales between different CoE
 7 and DS players: $V=.089$, $F(6,122) = 1.998$, $p = .071$, $\eta_p^2 = .089$). Separate univariate
 8 ANOVAs on outcome variables revealed the following non-significant differences between
 9 CoE and DS players: LTDFo, $F(1,127) = .062$, $p = .804$, $\eta_p^2 = .000$); QP, $F(1,127) = .006$, $p =$
 10 $.938$, $\eta_p^2 = .000$); Comms, $F(1,127) = .167$, $p = .684$, $\eta_p^2 = .001$); UtA, $F(1,127) = .167$, $p =$
 11 $.684$, $\eta_p^2 = .001$); SN, $F(1,127) = .167$, $p = .908$, $\eta_p^2 = .342$); and LTDFu, $F(1,127) = 1.541$, p
 12 $= .217$, $\eta_p^2 = .012$). We also observed the following mean differences between CoE and DS
 13 players for TDEQ subscales: LTDFo, $-.031$, $p = .804$, 95% CI = $-.281 - .218$; QP, $.014$, $p =$
 14 $.185$, 95% CI = $-.351 - .379$; Comms, $.075$, $p = .684$, 95% CI = $-.289 - .439$; UtA, $-.085$, $p =$
 15 $.684$, 95% CI = $-.495 - .326$; SN, $-.158$, $p = .342$, 95% CI = $-.485 - .170$, LTDFu, $.198$, $p =$
 16 $.217$, 95% CI = $-.118 - .514$.

17 **Perceptions of TDEs: item-level analysis**

18 The quartile analysis meant the highest and lowest scoring 15 items were highlighted
 19 as strengths (+) and areas for improvement (-), respectively (see table 1). A content analysis
 20 of these areas for improvement resulted in them being grouped under three higher order
 21 themes, which we interpreted as the main opportunities for development in UK female
 22 football TDEs: (1) Planning for football-specific development and career progression; (2)
 23 communication with key social agents; and (3) holistic player development and wellbeing.

24 **Planning for football-specific development and career progression**

1 This higher order theme was constructed from players' perceptions that the planning
2 for football-specific development and the consideration of factors that can affect a female
3 football player's career progression required improvement. It contained three lower themes:
4 (1) Goal setting and feedback; (2) Interactions with senior or more experienced players; and
5 (3) Developmental challenges.

6 **Goal setting and feedback.** This lower order theme contained four raw data
7 elements¹. It is based on the premise that players communicated that TDEs needed to
8 improve in goal setting, feedback being linked to specific goals, and in the regularity of
9 progress and performance reviewing. In addition, TDEs require improvement when
10 discussing requirements for career progression.

11 **Interactions with senior or more experienced players.** This lower order theme
12 contained three raw data elements. It indicated that players indicated greater access to senior
13 or more experienced players was desired, that players may like more opportunity to discuss
14 how world-class performers succeeded in their careers, and that they would like more
15 opportunities for help from more experienced players.

16 **Developmental challenges.** This lower order theme contained three raw data
17 elements. It indicates that players felt their TDEs needed to improve in developing
18 contingency planning skills, identifying upcoming challenges, and highlighted the sense that
19 developing players can be written off before they have had the opportunity to fulfil their
20 potential.

21 **Communication with key social agents**

22 This higher order theme is concerned with female players' perceptions that their
23 TDEs needed to improve in their communication with key social agents. It is composed of

¹ Within the content analysis, TDEQ subscale items were viewed as raw data elements

1 two lower order themes: (1) communication regarding achievements, and (2)
2 communications regarding demands.

3 **Communication regarding achievements.** This lower order theme contains two raw
4 data elements: (1) Parents, and (2) wider support networks. These highlight that players felt
5 TDEs needed to improve in communicating with parents and the wider support network
6 about what players are trying to achieve in football.

7 **Communication regarding demands.** This lower order theme contains one raw data
8 element: (1) education. It highlights that players felt greater communication between
9 education provider (e.g., school, college or university) about the demands they face in
10 football was desired.

11 **Holistic player development and wellbeing**

12 This higher order theme is concerned with areas for improvement in understanding
13 the player outside of football contexts and in their more holistic, integrated development as a
14 football player. It contains two lower order themes: (1) holistic considerations and, (2)
15 psychosocial development.

16 **Holistic considerations.** This lower order theme contains two raw data elements: (1)
17 life outside football and (2) player wellbeing. It denotes that players felt coaches could show
18 more interest and concern with their life outside of football or with their overall wellbeing.

19 **Psychosocial development.** This lower order theme contains two raw data elements:
20 (1) Understanding connections and (2) Mental toughness. It underscores that players felt
21 TDEs could improve in helping players to understand the connections and the overlap
22 between the different forms of training that they take part in and that players felt TDEs
23 needed to do more to help them develop their mental toughness.

24 **Discussion**

1 The aims of this study were to examine female football players' perceptions of their
2 TDEs with a view to providing an understanding of strengths and areas for improvement
3 within existing female football specific TDEs. Players had most positive perceptions of long-
4 term development focus and support network, whilst the least positive perceptions centred on
5 communication and understanding the athlete. We constructed three key opportunities for
6 development, based on the lowest quartile of statements where sport psychologists may be
7 able to support TDEs: (1) Planning for football-specific development and career progression;
8 (2) communication with key social agents; and (3) holistic player development and
9 wellbeing. The large and geographically dispersed sample drawn from different TDEs which
10 each had the aim of developing talented female football players, coupled with the lack of
11 statistically significant differences in subscale scores and the negligible effect sizes, suggest
12 that these findings go some way to representing the views of this type of female youth
13 football players in England. However, the large non-response rate suggests that greater player
14 representation would be needed to substantiate this claim.

15 Findings from this study draw some parallels with research from male professional
16 youth football academies in England (Mills et al., 2014a). For example, the most negatively
17 perceived element was that players are written off before having the opportunity to fulfil their
18 potential. Finally, findings provide larger scale evidence to support previous research
19 (Gledhill & Harwood, 2014; 2015; Mills et al., 2014a) by noting there are potential issues
20 surrounding communication between stakeholders and coaches' understanding of the athlete.
21 Given that factors such as key stakeholder relationships, holistic development and player
22 welfare are indicators of an optimal TDE in football (Larsen et al., 2013; Mills et al., 2014b),
23 our qualitative findings provide suggestions for how female TDEs in England can work
24 towards being optimal TDEs.

1 LTDFo was the highest scoring subscale. Data indicated that the variety of training
2 methods experienced, being reminded of the importance of commitment in becoming an
3 elite-level player and receiving a good standard of support when injured were key strengths.
4 This may impact on player TD as positive perceptions of long-term development focus have
5 been associated with the use of mastery-approach goals which can lead to heightened goal
6 pursuit (Wang et al., 2011), which has been linked with TD in football (Gledhill et al., 2017).

7 The perception of the support network within the TDE was the second highest scoring
8 subscale. This is noteworthy as Swedish football players who perceived their TDE as having
9 a long-term development focus and a strong support network experienced higher wellbeing
10 and less stress (Ivarsson et al., 2015). This has implications for TD as the stress-recovery
11 balance is linked to injury in football players (Brink, Visscher, Arends, Zwerver, Post, &
12 Lemmink, 2010) and injury is a major reason for female athletes' sport career termination
13 (Ristolainen, Kettunen, Kujala, & Heinonen, 2012). Having a strong support network is also
14 important as it provides an effective coping resource for youth football players (e.g., Reeves,
15 Nicholls, & McKenna, 2009), reduces fear of failure (e.g., Sagar, Busch, & Jowett, 2010); all
16 of which have been linked with TD in football (Gledhill et al., 2017).

17 The subscale 'communication' was the lowest scoring subscale, with some of the
18 lowest scoring elements of this subscale related to communicating about influences over
19 football career progression (e.g., discussing what previous elite performers did to progress;
20 clear goal setting for progression; identifying what the next big test will be in football). These
21 findings parallel those from English male academies (Mills et al., 2014a). They also lend
22 larger scale support to existing UK female football literature (Gledhill & Harwood, 2015)
23 which noted ineffective communication around identifying strengths and weaknesses, and
24 goal setting as contributing factors in players not progressing to a senior level.

25 **Strengths and limitations of this study**

1 To our knowledge, this is the first study to examine UK female football players'
2 perspectives of their TDEs. Sampling players currently experiencing TDEs negates
3 retrospective recall concerns evident in existing UK female football research (e.g., Gledhill &
4 Harwood, 2015). We have therefore advanced knowledge of this under-served research
5 population and provided a new, context specific evidence-base which can inform practice.

6 A first limitation of this study is the a priori selection of thresholds for strengths and
7 areas for improvement combined with the absence of behavioural observations in the TDEs
8 alongside survey completion (Andersen, McCullagh & Wilson, 2007). Future research would
9 benefit from combining the survey completion with behavioural observations of key
10 individuals (e.g., coaches and parents) to provide a more robust understanding. A second
11 limitation of this study is that the TDEQ was initially designed and validated as a general
12 sport measure. As such, its application may not be sensitive to the nuances of football. For
13 example, the early engagement with football specific activities is associated with TD in
14 football (Gledhill et al., 2017). Consequently, football coaches may be less likely to advise
15 players to partake in other sports. This is notable as sporting diversification TDEQ items with
16 lower agreement indicate a negative perception of the TDE. Therefore, we support the recent
17 call for a football-specific TDEQ (Mills et al., 2014a).

18 **Concluding remarks**

19 Female football TDEs in the UK were generally well-perceived by the players in this
20 study. TDEs have key strengths in areas of long-term development focus, whereas the least
21 positive perceptions are in areas of communication and understanding the athlete. There is a
22 view that players can be written off before reaching their potential. Future applied research
23 could examine the efficacy of addressing the opportunities for development reported herein,
24 for enhancing developmental experiences and outcomes of talented female football players.

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TALENT DEVELOPMENT ENVIRONMENTS IN UK FEMALE FOOTBALL

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Table 1.

TDEQ Item level analysis

Factor 1: Long-term developmental focus	M	SD
My coaches care more about helping me to become a professional/top level performance, than they do about having a winning team/performer right now	4.25	1.32
I am being trained to be ready for just about anything in soccer and life	4.59	1.10
If I got injured, I believe that I would continue to receive a good standard of support	5.04	1.04
Me and my team-mates are told how we can help each other develop further in soccer	4.67	1.04
My coach is good at helping me to understand my strengths and weaknesses in soccer	4.88	1.17
My coach is good at helping me to understand what I am doing and why I am doing it	4.80	1.13
My coach constantly reminds me of what he/she expects of me	4.88	0.95
The more experienced I get, the more my coach encourages me to take responsibility for my own development and learning	4.79	1.10
My development plan incorporates a variety of physical preparation such as fitness, flexibility, agility, co-ordination, balance, strength training etc.	5.11	0.94
If it didn't work out for me here, there are other good opportunities that would help me keep progressing in soccer	4.58	1.06
My coaches and those who support me give me straight answers to my questions	4.63	1.06
Developing performers are often written off before they have had a chance to show their real potential (-)	3.02	1.19
My training sessions are normally beneficial and challenging	4.88	1.06
Organisation is a high priority for those who develop my training programme	4.69	0.98
My coach plans training to incorporate a wide variety of useful skills and attributes, for example techniques, physical attributes, tactical skills, mental skills, decision making	4.97	0.98
I am constantly reminded that my personal dedication and desire to be successful will be the key to how good a performer I become	5.05	1.02
My coach emphasizes the need for constant work on fundamental and basic skills	4.76	1.10
There are people who help me or teach me how to deal positively with any nerves or worries that I may experience (e.g. coaches, parents, psychologists)	4.57	1.24
My coach is a strong supportive influence on me	4.74	1.18
My training is specifically designed to help me develop in the long-term	4.87	0.98
I spend most of my time developing skills and attributes that my coach tells me I will need if I am to compete successfully at a top/professional level	4.50	1.09
I struggle to get good quality competition experiences at a level that I require	4.85	1.03
I am encouraged to keep perspective by balancing any frustration that I may have in one area by thinking about good progress in another area	4.43	0.88
My coach emphasizes that what I do in training and competition is far more important than winning	4.32	1.42
Factor 2: Quality preparation		
I am rarely encouraged to plan for how I would deal with things that might go wrong (-)	3.61	1.33
I struggle to get good quality competition experiences at a level that I require	4.40	1.38
The guidelines in soccer regarding what I need to do to progress are not very clear	4.08	1.36
I am not taught that much about how to balance training, competing and recovery	4.18	1.42
I feel pressure from my mates in soccer to do things differently from what my coaches are asking me to do	4.28	1.45
Factor 3: Communications		
My coach and I talk about what current and/or past world class performers did to be successful (-)	3.60	1.38
My coach and I regularly talk about things that I need to do to progress to the top level in soccer (-)	4.00	1.27
My coach and I often try to identify what my next big test will be before it happens (-)	3.54	1.26
Feedback I get from my coaches almost always directly relates to my goals (-)	4.00	1.27
I regularly set goals with my coach that are specific to my development (-)	3.64	1.31
My coach often talks to me about the connections/overlap between different aspects of my training (-)	3.88	1.16
My coach explains how my training and competition programme work together to help me develop	4.19	1.21
Factor 4: Understanding the athlete		
My coach doesn't seem to be that interested in my life outside soccer (-)	3.90	1.42
I don't get much help to develop my mental toughness in sport effectively (-)	3.75	1.59
My coach rarely takes time to talk to other coaches who work with me	4.16	1.35
My coach rarely talks to me about my wellbeing (-)	3.89	1.29
Factor 5: Support network		
All the different aspects of my development are organised into a realistic timetable for me	4.20	1.19
I can pop to see my coach or other support staff whenever I need to	4.35	1.37
Those who help me in soccer seem to be on the same wavelength as each other when it comes to what is best for me	4.53	1.15
My training programmes are developed specifically to meet my needs	4.16	1.30
Currently I have access to a variety of types of professionals to help my development as a soccer player	4.46	1.43
My coach ensures that my school/college/university understands about my training/competition (-)	3.59	1.40
My coaches talk regularly to other people who support me in soccer about what I am trying to achieve (-)	3.89	1.29
My coaches and other who support me in soccer are approachable	4.92	1.00
Factor 6: Challenging and supportive environment		
My school/college/university doesn't really support me when it comes to my soccer	4.29	1.46
I don't often get any help from more experienced soccer players (-)	3.93	1.47
I have the opportunity to train with performers who are at a level that I aspire to	4.16	1.42
I am regularly told that winning and losing just now does not indicate how successful I will be in the future	4.24	1.28
Factor 7: Long-term development fundamentals		
The advice my parents gives me fits in with the advice that I get from my coaches	4.20	1.25
I am involved in most decisions about my soccer development	4.41	1.20
My coaches take time to talk to my parents about me and what I am trying to achieve (-)	3.59	1.46
I am encouraged to participate in other sports/cross-train	4.13	1.30

TALENT DEVELOPMENT ENVIRONMENTS IN UK FEMALE FOOTBALL

I would be given good opportunities even if I experienced a dip in performance	4.11	1.08
I often have the opportunity to talk about how more experienced performers have handled the challenges that I face (-)	3.85	1.33
My progress and personal performance is reviewed regularly on an individual basis (-)	4.00	1.32

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3 Table 2.

4 TDEQ subscale analysis

TDEQ subscale	Number of items	Subscale mean	SD	Cronbach's Alpha
Long-term development focus (LTDFo)	24	4.665	1.166	.932
Quality preparation (QP)	5	4.074	1.436	.748
Understanding the athlete (UtA)	4	3.859	1.444	.786
Communication (Comms)	7	3.853	1.129	.893
Support network (SN)	8	4.249	1.341	.850
Long term development fundamentals (LTDFu)	7	4.034	1.312	.797
Challenging and supportive environment	4	4.159	1.429	.378

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6 Figure 1.

7 UK female football TDE opportunities for development, based on a qualitative content

8 analysis of the lowest quartile statements of the TDEQ.

