

UNIVERSITY OF BIRMINGHAM

Final project report: Intentions to drop-out in female footballers from 5 European countries: The role of the coach-created motivational climate

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Contents

Theoretical background to project.....	3
Purpose of current study.....	10
Methodology.....	12
Results.....	15
Summary and recommendations.....	43
Reference.....	48

Theoretical background to project

Over the past 10 years, UEFA has implemented a number of initiatives to increase participation and support the growth of the grassroots game. Aligned with this specific aim of increasing engagement in (particularly grassroots) football is UEFA's aspiration of "everyone taking part in organised sport or physical activity – keeping fit, becoming happier, learning and passing on the values of sport and so building a better society" with football playing an important role in this ideal.

With respect to realising their aspirations, UEFA has placed particular emphasis on the foundations of women's grassroots football and encouraging its growth and development on a pan-European basis. Recently, UEFA's Executive Committee noted the huge growth in European women's football in terms of registered players and participation rates. For example, the number of national associations with more than 1,000 registered female adult players has increased by two during the 2014-15 season and the number of registered female players under the age of 18 has continued to rise, with the total number of young female players now standing at more than 750,000 (UEFA's Women's Football Across the Nation Associations 2014-15 document). In response to the growing number of females participating in football, the UEFA executive committee agreed to support the UEFA Women's Football Development Programme (WFDP) via a yearly payment of €100,000 between 2012 and 2016. UEFA is also working to promote the further qualification of female coaches across Europe. Off the back of statistics in Europe that show more has to be done to increase female coaches' competence, UEFA has recently implemented a programme focusing on increasing the number of females with UEFA B-license qualification (and in some instances A).

As more women and girls are now playing football, it is important that efforts are directed towards understanding the factors that help retain their engagement. UEFA acknowledge this point by stating in their Women's Football Across the Nation Associations

2014-15 document that “The biggest challenge for the national associations is not only to continue to promote women’s football and increase the number of registered players, but also to keep these young players playing regularly in the longer term.” Identifying the factors that help explain women’s and girl’s long-term engagement in football is vitally important because it is not the simple act of playing the game that is guaranteed to make “people happy” and sustain participation rates. That is, while football may be a tool for the provision of health-enhancing physical activity and is recognized to contribute towards the emotional, social and physical well-being experienced by children, adolescents and young adults (Gagne & Blanchard, 2007), positive consequences are not automatic by-products of just playing football. In fact, participation in football can also lead to undesirable physical/psychological health-related outcomes, and eventual dropping out of the activity (Duda, 2001). The *quality* of the football experience is recognized to be a critical determinant of whether participation leads to positive or undesirable behavioral and health-related outcomes (Duda & Balaguer, 2007).

Over the past two decades, a growing and compelling body of work has emerged that has underscores the significance of coach behaviours to variability in athletes’ quality experience in sport (Chelladurai, 2007; Ewing, Seefeldt, & Brown, 1996; Smith & Smoll, 2007). Studies have shown the actions and attitudes of coaches to be predictive of athletes’ emotional (e.g., competitive anxiety; Scanlan & Passer, 1979), cognitive (e.g., confidence; Sinclair & Vealey, 1989) and behavioural (e.g., likelihood of and reasons for dropping out; Barnett, Smoll, & Smith, 1992; Burton & Martens, 1986) responses and whether engagement in sport holds positive or more negative implications for an individual’s health and well-being (Duda, 2001a; Duda & Balaguer, 2007).

Applied to the sporting context, contemporary theories of motivation [i.e., achievement goal frameworks (AGT; Ames, 1992; Nicholls, 1989) and self determination theory (SDT; Deci & Ryan, 1985, 2000) have particularly focused on the role of coaches and how their psychological climate holds important implications for players. This climate is

understood to be comprised of what the coach does, says and how he/she structures the environment in training and competitions (Duda, 2001a) and is known to be a critical determinant of differences in athlete functioning and the quality of their engagement (Duda & Balaguer, 2007; Sarrazin, Boiche, & Pelletier, 2007). The AGT and SDT literatures identify key dimensions of that coach-created environment (i.e., which coach behaviours, perspectives and emphases hold motivational significance) and also the motivational mechanisms via which these dimensions of coach behaviour impact upon the health, well-being and sustained participation among sport performers at all levels.

Drawing from the major tenets of AGT (Ames, 1992; Nicholls, 1989), variability in the degree to which individuals tend to judge their competence and define success utilising task- and/or ego-involved criteria is assumed to impact how they interpret and respond to achievement-related activities. With respect to the former (i.e., task criteria), emphasis is placed on exerting effort, experiencing improvement and/or witnessing task mastery. An ego-involved conception of competence and subjective success, in contrast, is tied to the demonstration of superiority. In terms of the central features of the social environment, not surprisingly AGT accentuates the implications of motivational climates marked by more or less task- and/or ego-involving characteristics. Via interactions with players, a task-involving coach indicates that he/she places value on players working hard and working together to do their best (Newton, Duda & Zin, 2000). In contrast, a strongly ego-involving coach-created climate is characterised by differential treatment of players based on ability differences, rivalry, and a focus on out-performing one's teammate and competitors (Newton et al., 2000). There have been numerous AGT-based studies addressing the correlates of these two dimensions of the coach-created environment (see Duda, 2001a; Duda & Balaguer, 2007, Ntoumanis & Biddle, 1999, for reviews). Overall, the findings point to the benefits of participating in a task-involving climate for sport participants. On the other hand, athletes' perceptions of an ego-involving atmosphere have been linked to negative or maladaptive responses (such as heightened anxiety, dropping out).

SDT (Deci & Ryan, 1985, 2000) centres on the 'why' of behaviour, considering the determinants and consequences of more or less autonomous (and controlled) reasons for participation. A key concept within SDT is that of 'basic psychological needs'; namely, the universal needs of competence (being effective in meeting environmental demands), autonomy (being authentic, acting with volition, having input), and relatedness (feeling connected with and cared for by significant others in the context at hand) (Deci & Ryan, 2000; Ryan & Deci, 2000a,b). SDT holds that greater need satisfaction will contribute to more autonomous striving (i.e., participating in football because one enjoys it for its own sake and/or personally values the benefits of football) and optimal functioning (Ryan & Deci, 2000a,b). Diminished or actively thwarted need satisfaction is linked to more controlled (e.g., engaging in football for extrinsic rewards or out of feelings of guilt and pressure) reasons for engagement and the compromised welfare of those participants (Ryan & Deci, 2000a,b).

With respect to the prominent social contextual factors deemed relevant to need satisfaction/need thwarting, the motivation regulations underlying participation, and associated outcomes, SDT (Deci & Ryan, 2000) has centred on the extent to which the environment created by significant others is more or less autonomy supportive and controlling. An autonomy supportive coach acknowledges athletes' preferences and tries to take their perspective, provides meaningful choice in training and matches and welcomes their input into decision-making when and where possible (Mageau & Vallerand, 2003). A coach who is more controlling in his/her interpersonal style will tend to be pressuring, coercive, and intimidating when interacting with players (Bartholomew, Ntoumanis, & Thogersen-Ntoumani, 2010). SDT (Deci & Ryan, 2000) also considers the impact of additional dimensions of the social environment, such as the level and quality of social support (or interpersonal involvement) exhibited. A socially supportive coach would show he/she cares for and values each player, as an athlete and as a person (Mageau & Vallerand, 2003; Reinboth, Duda, & Ntoumanis, 2004). A growing body of research in the sport domain has been supportive of the SDT assumed differential implications of autonomy supportive,

controlling and socially supportive coach behaviours on players' need satisfaction, reasons for engagement, as well as their well-being and likelihood of continued participation (Adie, Duda, & Ntoumanis, 2008; Alvarez, Balaguer, Castillo, & Duda, 2009; Amorose & Anderson-Butcher, 2007; Bartholomew, Ntoumanis, Ryan, Bosch & Thogersen-Ntoumani, 2011; Gagne, Ryan, & Bargmann, 2003; Pelletier, Fortier, Vallerand, & Briere, 2001; Reinboth et al, 2004).

Overall, a plethora of studies (including studies in football) have shown that the coach-created motivational climate dimensions proposed by AGT and SDT are important determinant of the degree of basic need satisfaction, and in turn, self-determination undergirding sport participation. These motivational processes are recognised as central determinants of athletes' cognitive, behavioural and emotional responses both in, and outside of the sport setting.

Despite past research investigating the coach-created psychological environment, there remains an important gap in what is known about the motivational climate in women's football. The majority of studies concerning the coach-created motivational climate and athletes' motivation, well-being and physical activity intentions have tended to focus on participants from other sport or male footballers, and often from one country. Moreover, few investigations have adopted a multidimensional approach when evaluating the motivational climate operating in sport. That is, the majority of previous studies have investigated the motivational climate created by the coach from an AGT (i.e., task-involving and ego-involving) *or* SDT (i.e., autonomy-support, controlling, and social support) perspective. Recently, Duda (2013) provided an integrated model, conceptualising the coach-created motivational climate as a hierarchical multidimensional construct. Within Duda's framework, the climate is assumed to be comprised of relevant features of the environment that are emphasized within AGT *and* SDT. This model assumes that dimensions of coach behaviour reflect the extent to which an environment can be considered more or less '*empowering*' and '*disempowering*'. In an empowering environment, a coach behaves in a manner that is likely

to promote athletes' feelings of autonomy, relatedness and task-referenced perceptions of competence. As such, an empowering environment will be characterized by autonomy supportive, task-involving and relatedness supportive features and will be associated with numerous adaptive cognitive, affective and behavioral responses within the sport domain. In contrast, when a coach is disempowering they behave in a manner that tends to thwart athletes' feelings of autonomy, competence and relatedness, as well as encouraging ego-referenced perceptions of competence. In a disempowering environment, the coach tends to engage in more controlling, ego-involving and relatedness compromising behaviours, which will be associated with more maladaptive outcomes. Conceptualising the motivational climate as empowering and disempowering is advantageous because it allows an investigation of the broad array of climate dimensions from both theories simultaneously. In essence, it allows for a more comprehensive and multi-faceted examination in the coach-created motivational climate within sport and its concomitants.

An exception that does address some of the aforementioned limitations can be found in the research conducted within the recently completed European Commission funded PAPA project (www.projectpapa.org) (see Duda, Quested et al, 2013). The PAPA project entailed the recruitment of close to 8000 (including over 1,000 girls) 10-14 year old grassroots footballers and their coaches from England, Norway, France, Spain and Greece. The aim of PAPA was to customize and evaluate the effects of the *Empowering Coaching*TM education workshop (see www.empoweringcoaching.co.uk). The *Empowering Coaching*TM programme is grounded in Duda's (2013) integrated model of the multi-dimensional motivational climate and its' implications for athlete motivational processes. The training programme, which has evolved over 25 years of research and applied work led by Duda and colleagues, focuses on promoting coaches' understanding of the determinants of quality motivation in athletes. In addition, *Empowering Coaching*TM educates coaches to identify and more effectively apply strategies geared toward making sport more enjoyable, engaging and empowering for athletes. Initial findings (Quested et al., 2013) from PAPA revealed that facets of

empowering coaching motivational climates (i.e., autonomy-support) negatively predicted young footballers' intentions to drop-out of football, and that this relationship was mediated by players' psychological needs and enjoyment of football. Importantly, Quested et al's findings were consistent across the five countries.

Purpose of current study

This project will build upon the impressive data set generated, as well as the methodology (i.e., array of validated questionnaires) developed within the PAPA project, in order to enhance our understanding of the implications of the coach-created motivational climate for the quality and maintenance of females' participation in football across Europe.

The first aim of the proposed research is to recruit older female footballers (aged 15 years and older) from five European countries (England, France, Greece, Spain and Norway) to test the motivational sequence proposed by SDT: coach-created motivational climate → psychological need satisfaction/twisting → motivation for engagement (i.e., autonomous or controlled) → healthy (e.g., enjoyment, self-esteem) and sustained (i.e., lower intentions to drop-out) engagement in grassroots football.

A second aim of the current project is to test whether the motivational sequence described above is similar/different (i.e., degree of invariance) when tested across: 1) female footballers from different regions of Europe, and 2) across younger (10-14 years old) and older (15 years and older) female footballers. Regarding testing for invariance between the younger and older group, this will be possible by utilising the data from the female footballers recruited in the PAPA project. It is important to test for equivalence in the motivational sequence across different samples of females. If the targeted links between climates dimensions, motivational processes and outcomes hold regardless of the female players' age group or country, then the evidence regarding the potential implications of the coach-created motivational climate in women's and girl's football is more compelling and wide-ranging.

A final aim of the current project is to test mean differences in the targeted variables and whether the hypothesised motivational sequence is invariant between female footballers (recruited in this study and included within the PAPA data set) and females (10 years and older) participating in the most popular sport for girls and women in each of the targeted

countries. In the case where the targeted motivational climate dimensions, motivational processes and outcome are more favourable in womens' football, the evidence may encourage UEFA (and other European football organisations) to identify the sources and reasons for the 'good practice'. Conversely, if the 'picture' is more adaptive in the comparative sports, the evidence from this project will provide a rationale for UEFA (and other European football organisations) to identify the specific strategies adopted in other sports that help their coaches create empowering motivational climates and reduced intentions to drop-out.

The hypotheses guiding this study are:

The motivational sequence described above will be supported in the older female footballers (15 years and older). It is also predicted mean differences in the targeted variables will emerge but the motivational sequence will be equivalent across female footballers from five countries and two age groups (younger vs. older), and across sports.

Methodology

The total sample consisted of 2669 female footballers and 1090 female athletes from other sports, split across 3 groups. Group one consisted of 1419 females, 15 years and older, and their coaches recruited from 85 grassroots/community football teams. Group two consisted of 1090 females, aged 10 years and older, representing 96 non-football grassroots sport teams (England = Netball; France = Handball; Spain = Basketball; Greece = Volleyball; Norway = Handball). The third group included the female footballers (ages 10-14 years) from 136 teams recruited as part of the PAPA project (n = 1020). See Table 1 for an overview of the athletes and Table 2 for overview of coaches from group one.

Table 1. Overview of athlete sample

Country	Older Football (Group 1)	Non-football (Group 2)	PAPA Football (Group 3)
England	213 athletes (22 teams)	240 athletes (12 teams)	237 athletes (25 teams)
France	215 athletes (13 teams)	245 athletes (16 teams)	36 athletes (30 teams)
Spain	239 athletes (20 teams)	313 athletes (36 teams)	212 athletes (21 teams)
Greece	190 athletes (16 teams)	220 athletes (14 teams)	21 athletes (8 teams)
Norway	204 athletes (13 teams)	292 athletes (19 teams)	744 athletes (53 teams)
Total Sample	1419 athletes (84 teams)	1090 athletes (97 teams)	1250 athletes (137 teams)
Mean Age (SD)	16.65 (3.12)	14.23 (2.60)	11.63 (1.30)
Mean seasons with team (SD)	3.33 (3.05)	3.32 (2.36)	2.01 (1.95)
Mean hours with team / week (SD)	5.64 (2.73)	5.67 (2.39)	3.10 (1.32)

Table 2. Overview of women's football coaches

Country	Number of Coaches
England	22
France	20
Spain	17
Greece	9
Norway	12

Athletes from groups one and two completed a questionnaire that measured the targeted variables. The questionnaires were selected because they had strong psychometric properties (e.g., high validity and reliability) and have been successfully used in previous research with footballers across the five European countries. All the questionnaires (except need thwarting) were also used in the PAPA project, thus enabling a comparison between the three groups in this project. Variables were measured on a scale from 1 (strongly disagree) to 5 (strongly agree). The questionnaires included in this project were:

1. 30-item Empowering and Disempowering Motivational Climate Questionnaire-Coach (Appleton et al., under review).
2. 15-item Basic Psychological Need Satisfaction in Sport Scale (Quested et al., 2013)
3. 12-item Psychological Need Thwarting Scale (Bartholomew et al., 2011) (N.B. Not used in the PAPA project)
4. 20-item Behavioural Regulation in Sport Scale (Lonsdale et al., 2008)
5. 5-item enjoyment scale from the Intrinsic Motivation Inventory (McAuley et al., 1989);
6. 5-item cognitive anxiety scale from the Sport Anxiety Scale (Smith et al., 2006)
7. 4-item Athletes' Intentions to Drop-out of and Continue Playing Sport Scale (Quested et al., 2013);
8. 5-item Subjective Vitality Scale (Ryan & Fredericks, 1997).
9. 5-item general self-worth scale from the Physical Self Description Questionnaire (Marsh et al., 2010)

Procedures – Coaches/managers from grassroots football and other female-popular sport teams were contacted to explain the purpose of the project and request the participation of their athletes. Project information sheets and consent forms were distributed to parents of athletes under 18 years of age and to all athletes from groups one and two. After informed

consent was secured, the questionnaire was distributed by a trained research assistant to athletes from groups one and two before or after a training session. The questionnaire took approximately 30 minutes to complete. Research assistants in each country had previous experience collecting questionnaire-based data in sport settings, and worked with the researcher in each country to ensure data was collected as stipulated in the ethics approval document.

Results

Issues relating to the women's football across the 5 countries: players' responses (group one only)

Data was collected across the five countries concerning issues related to women's football from the perspective of the players in group one. A summary of the findings is provided in Tables 3a-c.

	Eng	Fra	Spa	Gre	Nor
1. Is your main coach a man or woman?	30% Female	43% Female	17% Female	16% Female	6% Female
2. Given the choice, what gender would you prefer your coach to be?	4% Female	8% Female	13% Female	4% Female	9% Female
	79% Don't Care	76% Don't Care	83% Don't Care	70% Don't Care	67% Don't Care
3. Excluding PE teachers, have you ever had a female football coach before?	67% Yes	62% Yes	58% Yes	30% Yes	72% Yes

Table 3a. Number of female coaches

Table 3a reveals that the majority of older female footballers are coached by men, with fewer players coached by a female. However, when questioned whether they would prefer a male or female coach, the majority of the footballers had "no preference" with relatively fewer players specifically preferring a female coach. The majority of the women have been coached by a female coach in the past, although there was still a large proportion that had never been coached by a female.

Question from UEFA (1 = very low to moderate, 2 = good to excellent)										
How do you consider the conditions of your...	Eng		Fra		Spa		Gre		Nor	
	1	2	1	2	1	2	1	2	1	2
training pitches	26%	64%	27%	73%	26%	74%	78%	22%	14%	86%
training hours	40%	60%	17%	83%	36%	64%	30%	70%	36%	64%
match pitches	39%	61%	41%	59%	28%	72%	48%	52%	24%	76%
changing rooms	38%	62%	33%	67%	64%	36%	67%	33%	61%	39%
Coaching	38%	62%	8%	92%	21%	79%	15%	85%	19%	81%

Table 3b. Conditions in football from players' perspectives

Players were also asked about the conditions of a number of factors in football (see Table 3b). Overall, the findings suggest the majority of the players are having a good to excellent experience in football. Specifically, the majority of players across four of the countries considered the training and match pitches to be moderate or better, with only more players in Norway reporting very low to moderate standards. Likewise, many of the footballers in group one seemed satisfied with the amount of training they received, but again in Norway there were more players who were dissatisfied with the amount of training received. More research is needed to understand why the majority of Norwegian players scored very low to moderate to when responding to these questions.

Regarding the conditions of the training rooms, there were a large proportion of players in Spain, Greece and Norway who rated the facilities as very low to moderate. Although it is not clear from this study why a large proportion of the Spanish, Greek and Norwegian players were dissatisfied with their changing rooms, it could be speculated that more funding should be dedicated to improving the facilities for female footballers. Finally, and importantly from the perspective of this study (regarding the coach-created motivational climate), most women across the five countries considered the quality of coaching to be good- to-excellent.

Question from UEFA	Eng	Fra	Spa	Gre	Nor
Does your club offer any scholarships/academy agreements or schemes for the female players (e.g., with an educational institute to allow you to train at a higher level while studying)?	15% Yes	32% Yes	18% Yes	27% Yes	63% Yes
Do you feel part of the club “family” or more like an “annex” of the men’s team?	58% Yes	69% Yes	70% Yes	60% Yes	57% Yes
Do you feel the club’s general manager(s) give adequate attention to the girls/women’s team?	70% Yes	85% Yes	58% Yes	59% Yes	62% Yes

Table 3c. A summary of the findings relating to further issues in women’s football from the players’ perspective

The data (see Table 3c) in this section also revealed that, the majority of clubs across the five countries do not offer scholarships to support the female footballers. However, there are a small number that do, especially in Norway. The data also revealed that the majority of the women across the five countries felt their team was incorporated into their overall club system, albeit there were more Spanish players that strongly agreed than in England and Norway. Finally, the majority of players across the five countries felt that the extent to which the club's general manager was interested in the women's team was good to excellent, especially in France and England. However, there were also a significant proportion of the women who felt this was not the case, especially in Greece and Spain.

**Issues relating to the women's football across the 5 countries:
coaches' responses (group one only)**

Data were collected across the five countries concerning issues related to women's football from the perspective of the coaches of the players in group one. A summary of the findings is provided in Tables 4-10.

	Eng	Fra	Spa	Gre	Nor
1. Are you male or female	14% Female	50% Female	18% Female	22% Female	0% Female
2. What was your main motivation to become a coach in women's football?					
a) passion for the women's game specifically	32%	50%	24%	45%	50%
b) employment opportunity		10%	24%		
c) career enhancing opportunity/opportunity for career progression			18%	11%	
d) I was placed in this job		5%	6%		
e) other reason (see next table for more information)	64%	35%	30%		

Table 4. A summary of the findings relating to issues in women's football from the coaches' perspective

Table 4 shows that, other than in France, the majority of coaches in the current project were male. In terms of the coaches' motivation for starting coaching, coaches offered a range of reasons with no clear pattern emerging based on the set answers. Coaches that responded "other reason" were asked to elaborate on their main motivation to become a football coach.

The different motivations are described in the Table 5.

England	<p>"As a girl we were not allowed to play football. I vowed to make a difference that girls can play"</p> <p>"Daughter plays"</p> <p>"I love football"</p> <p>"Easily persuaded"</p> <p>"Love for football in general"</p> <p>"My daughter played and I got involved as the club needed a coach for her age group. That was at U11. I stayed coach as the team got older. This is my 10th seasons. I still do it as I enjoy it, even though my daughter has gone to University, my partner now plays for the team"</p> <p>"The enjoyment of working with young children and seeing them develop"</p> <p>"Unhappy with daughter manager at the time"</p> <p>"Working with footballers to help them improve"</p>
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France	“A club to which I am attached and I had always had good feeling with women’s teams” “Follow the team to train the girls to progress” “For fun” “Parent of player, no coach” “Passion for training” “Support young girls on my daughter’s club in their progression” “Wanted to have a new experience in sport”
Spain	“Because I was a friend of the previous director” “I coach to teach” “Passion for football” “To help the club improve”
Greece	“Love for the game. I believe it’s very interesting” “My basic motivation was to create a good team and give attention most of all to the young athletes” “Passion for the game” “Research in women’s football”

Table 5. A summary of the findings relating to issues in women’s football from the coaches’ perspective

Many of the reasons given by the coaches in table 5 relate to more autonomous motives (i.e., coaching because of enjoyment and/or because of the personal benefits associated with coaching women footballers) for taking up coaching women footballers. These reasons include “love for the game”, “passion for the game”, “for fun”, “working with players to help them improve”, and “the enjoyment of working with young children and helping them develop”. This is an important finding because autonomous motivation for coaching has been associated with a range of positive outcomes in coaches including basic psychological need satisfaction, general well-being and low levels of stress and exhaustion (McLean, Mallet & Newcombe, 2012). A number of coaches also referred to taking on a coaching role because their daughter’s team either had no coach or the parent was unhappy with the current coach. It is not possible to know whether these reasons were more autonomous or more controlled (i.e., feeling guilty if didn’t take on the coaching role), but if the latter (i.e., controlled), then the coach may eventually experience a range of maladaptive outcomes (see McLean et al., 2012).

Male coaches were asked, if they had coached a men’s team before, did they change their approach when coaching a women’s team. For the male coaches that responded “yes”, they were subsequently asked to elaborate why, specifically, they changed their approach.

	Eng	Fra	Spa	Gre	Nor
3. Do you change your approach?	32%	20%	18%	89%	42%
	Yes	Yes	Yes	Yes	Yes
Why do you change your approach when coaching a women's team?					
England	"Different physical and emotional demands" "Girls will take criticism in a negative way and feel that it is a personal attack" "I explain the session more and explain why it is relevant to the game" "I feel women respond differently to boys and digest the information differently" "Level of discipline, terminology used, style of coaching" "More sensitive and tolerant" "Women, specifically young women, are generally not as assertive, physically or vocally on and off the pitch. The macho bollocking that goes on in the men's game would lose you players in the women's game"				
France	"A more appropriate relationship and training" "Girls ask more information on how to do things" "Not the same motivation between girls and boys" "Taking into account the specificity of feminine style of playing" "The relations is different, the speech, the language and the approaches are different"				
Spain	"Because the level of attention and motivation is different, as well as the physical condition of the female football players in comparison with the male footballers" "Because girls who have never played before and we teach them all the basic things" "They are different, we need to empathise more with them. I think that not everybody can coach to a female team, and I also think that the female footballers feel good"				
Greece	"Because of the physiological standards such as strength, flexibility, physical state, stamina" "It is my first year as a coach to a women's team. You've got to treat women with different angels because they have a different way of understanding the sport in its essence" "We have a vast difference of age amongst players from 12-25, different level and experiences amongst the players. There is a big different in terms of quality of practice itself" "Women are more fragile so you've got to them differently. Also in matters of psychological status are also different" "You've got to treat women with different angels because they have a different way of understand the sport in its essence"				

Table 6. A summary of the findings relating to issues in women's football from the coaches' perspective

It is interesting to note that, compared to male coaches in the other countries, more Greek men changed their approach when coaching women's teams. One theme that was consistent across the countries is that males changed their approach to coaching women's teams because they perceived there to be physiological, psychological, emotional and learning differences between female and male footballers.

	Eng	Fra	Spa	Gre	Nor
4. Do you receive a salary for coaching this team	14%	50%	88%	44%	50%
If yes, how much?	Yes	Yes	Yes	Yes	Yes
	300	35-2300	125-600	200-4000	

Table 7. A summary of the findings relating to issues in women's football from the coaches' perspective

Except for in England, a large number of coaches indicated that they received a salary for coaching their women's team, especially in Spain. The range of salary received by the coaches was also quite extensive.

5. How many hours per week to you dedicated to coaching this team?	Eng	Fra	Spa	Gre	Nor
Training preparation	2.63	3.30	5.76	4.29	10.33
On the pitch	2.79	7.00	6.38	7.20	6.79

Table 8. A summary of the findings relating to issues in women's football from the coaches' perspective

Table 8 reveals there are differences across the five countries in terms of the amount of time coaches dedicate to training preparation and on the pitch. The evidence suggests that coaches in England dedicate the least amount of time to their coaching, while coaches in Norway dedicate over 10 hours to training preparation and nearly 7 hours on the pitch. Likewise, coaches in Spain, France and Greece spend over 50% more hours on the pitch than English coaches. While the amount of time on the pitch may give coaches more opportunity to be empowering (or disempowering), it is the quality of the coaching (rather than the quantity of time with the players) that is a key factor.

6. Do you have adequate access to pitches for...	Eng	Fra	Spa	Gre	Nor
Training	72.7%	95%	77%	78%	75%
	Yes	Yes	Yes	Yes	Yes
Matches	91%	95%	77%	78%	100%
	Yes	Yes	Yes	Yes	Yes

Table 9. A summary of the findings relating to issues in women's football from the coaches' perspective

Table 9 indicates that, across the five countries, the majority of coaches are satisfied with their access to pitches and training. While access to pitches may contribute to a players' overall experience in football, the extent to which coaches are empowering (or

disempowering) can occur at any opportunity, in any context, and thus can be evident irrespective of access to (quality) pitches.

	Eng	Fra	Spa	Gre	Nor
7. If you are coaching in a team that belongs to a men's club, on a scale of 1 to 5, 1 being very low, and 5 being excellent, how do you rate the relationship with your parent club?	$M = 4.17$	$M = 4.71$	$M = 4.01$	$M = 2.50$	$M = 3.80$

Table 10. A summary of the findings relating to issues in women's football from the coaches' perspective

The final table (10) in this section reveals that, for those coaches whose team belongs to a men's club, they are generally satisfied with their relationship to the parent club, albeit the mean score in Greece was slightly lower when compared to the mean score across the other countries.

Do mean scores on the targeted variables differ across footballers compared to the non-football athletes' mean scores across the five countries?

The following section provides an overview of the mean scores on the variables measured in this study, comparing footballers to non-footballers across the five countries (see Tables 11-16). To test whether the mean values in the targeted variables were significantly different for female footballers compared to athletes from the other sports in each country, we ran a series of independent t-tests.

The coach-created motivational climate

The general mean scores indicated that the athletes perceived that their coaches created environments that are slightly more empowering than disempowering across the two groups and five countries (see Table 11). T-test analyses revealed that consistently across the five countries, female athletes from other sports reported significantly higher perceptions of an empowering climate than female footballers. Interestingly, in Norway, Spain and England, female athletes from the other sports also reported significantly higher disempowering climate scores than female footballers.

Variables	Eng		Fra		Spa		Gre		Nor	
	F	O	F	O	F	O	F	O	F	O
Empowering Climate	2.55 (.73)	2.91 (.49)	2.73 (.74)	2.88 (.52)	2.45 (.88)	2.99 (.46)	2.91 (.68)	3.03 (.45)	2.01 (.56)	2.11 (.57)
Disempowering Climate	2.14 (.56)	2.52 (.73)	2.38 (.52)	2.49 (.61)	2.33 (.59)	2.56 (.73)	2.37 (.56)	2.42 (.54)	2.17 (.54)	2.28 (.67)

Table 11. Athletes' perceptions of empowering and disempowering climate scores.

N.B. F = Footballers. O = Athletes from other sports. Standard deviations in brackets.

Players' basic psychological need satisfaction and thwarting

The general mean scores indicated that the athletes across the two groups and five countries experienced greater psychological need satisfaction than need thwarting (see Table 12). T-test analyses revealed few significant differences across the two groups. In France, footballers

reported significantly higher scores on psychological need thwarting. In contrast, in England, footballers reported significantly higher basic psychological need satisfaction scores.

Variables	Eng		Fra		Spa		Gre		Nor	
	F	O	F	O	F	O	F	O	F	O
Need Satisfaction	3.84 (.69)	3.69 (.65)	3.64 (.67)	3.61 (.59)	4.00 (.71)	3.93 (.85)	3.59 (.70)	3.48 (.71)	3.59 (.78)	3.50 (.81)
Need Thwarting	1.84 (.72)	1.96 (.69)	2.15 (.72)	2.06 (.64)	2.05 (.67)	2.11 (.75)	2.03 (.62)	2.09 (.56)	2.08 (.61)	2.12 (.76)

Table 12 . Athletes' psychological need satisfaction and thwarting scores.

N.B. F = Footballers. O = Athletes from other sports. Standard deviations in brackets. (Athletes from PAPA did not provide data on psychological need thwarting)

Players' autonomous and controlled motivation for sport participation

The general mean scores indicated that the athletes across the two groups and five countries experienced greater autonomous motivation for playing their sport than controlled motivation (see Table 13). T-test analyses revealed that, other than in Norway, female footballers reported significantly higher autonomous motivation than female athletes from other sports. In addition, footballers reported significantly lower controlled motivation scores than females from other sports in Norway, Spain and England.

Variables	Eng		Fra		Spa		Gre		Nor	
	F	O	F	O	F	O	F	O	F	O
Autonomous Motivation	3.80 (.67)	3.32 (.37)	3.53 (.56)	3.34 (.37)	3.88 (.61)	3.37 (.46)	3.53 (.56)	3.22 (.35)	4.21 (.44)	4.26 (.46)
Controlled Motivation	2.40 (.69)	2.66 (.53)	2.58 (.52)	2.49 (.50)	2.27 (.61)	2.50 (.49)	2.58 (.52)	2.59 (.43)	1.91 (.54)	2.01 (.54)

Table 13. Athletes' autonomous and controlled motivation scores.

N.B. F = Footballers. O = Athletes from other sports. Standard deviations in brackets.

Players' enjoyment and anxiety in sport

The general mean scores indicated that, overall, the athletes reported greater enjoyment than anxiety across the two groups and five countries (see Table 14). T-test analyses revealed that in Greece and Spain, footballers reported significantly higher enjoyment scores than athletes

from the other sports. In contrast, in Norway, Spain, and England, footballers reported significantly higher anxiety scores than participants from the other sports.

Variables	Eng		Fra		Spa		Gre		Nor	
	1	2	1	2	1	2	1	2	1	2
Enjoyment	4.37 (.64)	4.27 (.65)	4.19 (.66)	4.23 (.66)	4.57 (.56)	4.39 (.75)	4.34 (.57)	4.19 (.64)	4.29 (.63)	4.21 (.69)
Anxiety	3.21 (1.10)	2.66 (.53)	3.47 (.92)	3.63 (.90)	3.92 (.99)	2.50 (.49)	3.11 (.82)	3.16 (.89)	3.08 (1.05)	2.01 (.54)

Table 14. Athletes' autonomous and controlled motivation scores.
N.B. F = Footballers. O = Athletes from other sports. Standard deviations in brackets.

Players' intentions to drop-out and continue playing sport

The general mean scores indicated that, overall, athletes reported greater intentions to continue participating in sport than drop-out (see Table 15). T-test analyses revealed that in France, footballers reported significantly higher intentions to drop-out than athletes from the other sport. In England, footballers reported lower intentions to drop-out and higher intentions to continue playing than the female athletes from the other sport.

Variables	Eng		Fra		Spa		Gre		Nor	
	F	O	F	O	F	O	F	O	F	O
Drop-out	1.52 (.81)	3.70 (1.39)	1.83 (1.15)	1.50 (.82)	1.45 (.81)	1.52 (.89)	1.58 (.80)	1.48 (.74)	1.58 (.86)	1.63 (.91)
Continue	4.37 (.80)	2.16 (1.42)	4.15 (.95)	4.24 (.72)	4.25 (.80)	4.15 (.89)	3.89 (.94)	3.86 (.81)	4.13 (.92)	4.13 (.93)

Table 15. Athletes' intentions to drop-out and continue playing scores.
N.B. F = Footballers. O = Athletes from other sports. Standard deviations in brackets.

Players' general well-being

Table 16 suggests that across the two groups and five countries, athletes report moderately high levels of general vitality and self-esteem. T-test analyses revealed that in Greece, Norway, Spain and England, footballers reported significantly higher vitality scores than females participating in the other sports. In addition, footballers in England reported significantly higher self-esteem scores than their counterparts from the other sports.

Variables	Eng		Fra		Spa		Gre		Nor	
	F	O	F	O	F	O	F	O	F	O
Vitality	3.63 (.90)	3.07 (.58)	3.60 (.82)	3.57 (.78)	3.92 (.84)	3.75 (.88)	3.72 (.74)	3.50 (.71)	3.71 (.76)	3.49 (.86)
Self-esteem	3.76 (.70)	3.23 (.46)	3.54 (.68)	3.60 (.68)	3.68 (.64)	3.60 (.74)	3.63 (.56)	3.61 (.54)	3.86 (.64)	3.89 (.71)

Table 16. Athletes' vitality and self-esteem scores.

N.B. F = Footballers. O = Athletes from other sports. Standard deviations in brackets.

Are empowering and disempowering motivational climates important predictors of key outcome variables in football after taking into consideration “other issues”?

In this section of the report, we consider whether empowering and disempowering motivational climates are important predictors of the key outcome variables in this study after taking into account the predictive effects of some of the issues within women’s football (described in Table 3b). That is, once we have accounted for the effect of these important factors, we wanted to know whether the coach-created motivational climate accounts for any additional variance in the targeted outcomes. For this particular section of the report, we focus on the older footballers only.

The analyses conducted in this section were a series (one per outcome variable) of two-step hierarchical regression analyses. In step one, we entered the important issues outlined in Table 3b. Then, in step two, we entered the empowering and disempowering climate dimensions and examined whether the change in the R^2 value from step one to two was significant. A significant change in R^2 indicates the motivational climate dimensions are important predictors of the targeted outcome variables, above and beyond the key issues. In Tables 17-22 below, we present the significant findings.

BNS	<i>F</i>	R^2	ΔR^2	CG	CTP	CTH	CMP	CCR	CQC	S	F/A	Em	Dis
<i>Step 1</i>	6.55*	.067		.05	.00	.09*	.06	-.01	.15*	.04	-.13*		
<i>Step 2</i>	10.50*	.125	.059*	.02	.06	.07	.05	-.03	.10*	-.01	-.10*	.24*	-.14*

Table 17. Two-step hierarchical regression analysis predicting footballers’ basic psychological need satisfaction

Enj	<i>F</i>	R^2	ΔR^2	CG	CTP	CTH	CMP	CCR	CQC	S	F/A	Em	Dis
<i>Step 1</i>	6.11*	.062		-.10*	.02	.07	.00	.05	.18*	.02	-.03		
<i>Step 2</i>	9.60*	.116	.053*	-.12*	.06	.06	-.01	.03	.11*	-.01	-.02	.14*	-.23*

Table 18. Two-step hierarchical regression analysis predicting footballers’ enjoyment of football

DO	<i>F</i>	R^2	ΔR^2	CG	CTP	CTH	CMP	CCR	CQC	S	F/A	Em	Dis
<i>Step 1</i>	3.66*	.196		.09*	.03	-.08	.02	-.06	-.13*	-.01	.01		
<i>Step 2</i>	6.81*	.292	.085*	.09*	.00	-.07	.03	-.04	-.06	.01	.02	-.09*	.23*

Table 19. Two-step hierarchical regression analysis predicting footballers’ intentions to drop-out of football

Con	<i>F</i>	<i>R</i> ²	ΔR^2	CG	CTP	CTH	CMP	CCR	CQC	S	F/A	Em	Dis
<i>Step 1</i>	7.93*	.038		-.04	-.03	.07	.02	.06	.23*	.06	-.01		
<i>Step 2</i>	10.30*	.085	.044*	-.04	-.02	.06	.02	.03	.16*	.04	.00	.09	-.22*

Table 20. Two-step hierarchical regression analysis predicting footballers' intentions to continue playing football

Vit	<i>F</i>	<i>R</i> ²	ΔR^2	CG	CTP	CTH	CMP	CCR	CQC	S	F/A	Em	Dis
<i>Step 1</i>	4.25*	.044		.01	-.12	.02	.13*	-.03	.11*	.06	-.09		
<i>Step 2</i>	7.02*	.087	.043*	-.01	-.07	.00	.12*	-.04	.06	.01	-.08	.28*	-.13*

Table 21. Two-step hierarchical regression analysis predicting footballers' general vitality

SE	<i>F</i>	<i>R</i> ²	ΔR^2	CG	CTP	CTH	CMP	CCR	CQC	S	F/A	Em	Dis
<i>Step 1</i>	2.83*	.109		.05	.10	.02	.09	.09	.12	-.08	-.11		
<i>Step 2</i>	4.29*	.190	.081*	.09	.05	.07	.04	.10	.08	-.06	-.04	.20*	-.25*

Table 22. Two-step hierarchical regression analysis predicting footballers' general self-esteem

Note. CG= Coaches' gender; CTP = Condition of training pitches; CTH = Condition of training hours; CMP = Condition of match pitches; CCR = Condition of changing rooms; CQC = Condition of quality coaching; S = Club offers scholarship to players; F/A= Team is a part of the club's family or an annex; Em = Empowering climate; Dis = Disempowering climate. * $p < .05$.

Overall, the regression analyses revealed that empowering and disempowering motivational climates are important predictors of the targeted outcome variables, once the effects of additional important factors have been controlled for. Specifically, significant changes in the R^2 values revealed that empowering motivational climates were significant positive predictors of footballers' basic psychological need satisfaction, enjoyment, and general feelings of vitality and self-esteem. Empowering motivational climates were also significant negative predictors of players' intentions to drop-out of football. Regarding a disempowering climate, it emerged as a significant negative predictor of basic psychological need satisfaction, enjoyment, intentions to continue playing football, and general feelings of vitality and self-worth. The addition of the climate dimensions predicted between an extra 4.3% and 8.5% of the variance in the outcome variables.

The regression analyses also revealed that few of the other important issues described in Table 3b were significant predictors of the targeted outcome variables at step two (i.e., once the effects of the motivational climate dimensions were accounted for). Unsurprisingly,

the quality of the players' coaching (which is hypothetically related to the extent to which a coach is empowering or disempowering) was a significant predictor of three of the six outcome variables at step two (i.e., psychological need satisfaction, enjoyment, intentions to continue playing). Whether the players perceived their team to be part of their club's family (or an annex) was negatively associated with the players' psychological need satisfaction scores. Coaches' gender remained a significant negative predictor of enjoyment, suggesting players with a male coach were less likely to enjoy football. Likewise, coaches' gender was also a significant predictor of footballers' intentions to drop-out, albeit on this occasion players with female coaches reported higher intentions. Finally, the quality of the players' match pitches was a significant and positive predictor of players' general vitality scores.

Is the process model of motivation supported in older female footballers and invariant across age groups, countries and sport?

In this section of the report, we consider whether the process model of motivation described on page 10 is supported in the older female footballers (recruited as part of this project). In addition, we determined whether the pathways between the variables in the model are invariant (i.e., the same) in older versus younger footballers (recruited in PAPA), in footballers (both older and younger) from five countries, and in footballers (both older and younger across all countries) versus females for the other sports (combined across the five countries).

To answer this set of questions, we conducted a series of path models using AMOS 20.0. Path analysis examines the fit of the data to the hypothesized process model, and also provides a test of whether the model is invariant across different groups. To assess the fit of the data to the hypothesized process model, AMOS produces fit indices with certain values representing poor, adequate and excellent fit. For this report, we selected a group of fit indices that are generally adopted throughout the sport psychology literature (see Marsh, 2007). These indices include the confirmatory fit index (CFI), the incremental fit index (IFI), the root mean square error of approximation (RMSEA) and 90% confidence intervals (90% CIs), and the standardized root mean square residual (SRMR). Values above .90 and .95 are considered to represent adequate and excellent fit for the CFI and IFI indices, respectively. Values below .08 and .05 are considered to represent adequate and excellent fit, respectively, for the RMSEA and SRMR (Marsh, 2007). To determine whether the hypothesized paths in the model were invariant across the different groups (i.e., young vs. old footballers; footballers from different countries; footballers vs. non-football athletes), we used the “groups differences” stats package developed by Gaskin (2012). In testing the hypothesized model, we separated the “empowering” pathway from the “disempowering” pathway to provide a more focused analysis of the effects of the positive and negative motivation-related

variables. In the figures below, we present the significant pathways only (i.e., $p < .05$). In addition, where AMOS indicated the model could be improved by including additional pathways, and the pathways made sense from a theoretical perspective, the models were amended. To represent the direction and strength of the paths, we have presented the standardized coefficient value within each model.

Testing the model in older footballers: In terms of enjoyment and anxiety, the fit of the empowering climate model (see Figure 1) was adequate (CFI = .911; IFI = .913; RMSEA = .078, 90% CI = .053 – .106; SRMR = .032). In this model, empowering climate was a significant predictor of basic psychological need satisfaction, which in turn was a significant positive predictor of autonomous motivation (N.B. As these paths are consistent across the models, they will not be reported again in the following sections). Autonomous motivation was subsequently a positive predictor of players' enjoyment. AMOS recommended an additional path between need satisfaction and players' enjoyment, which is consistent with the predictions of SDT. This additional path was positive and significant. There were no significant predictors of anxiety in this model.

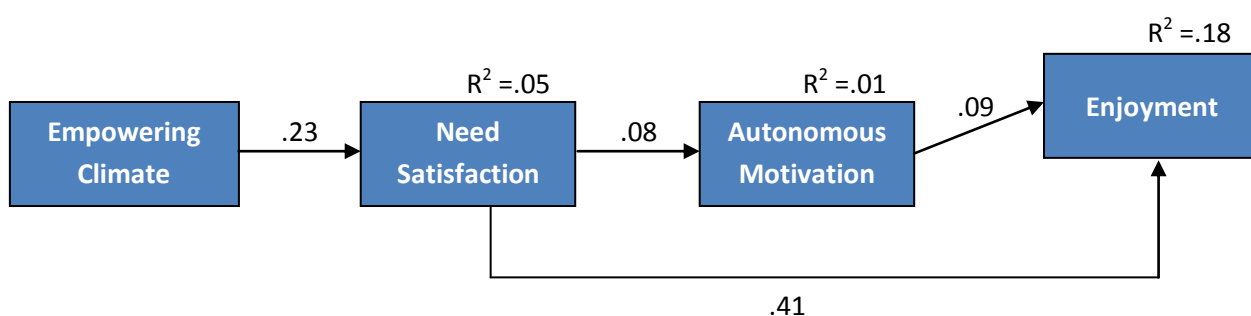


Figure 1. Empowering climate model predicting enjoyment in older footballers

In terms of players' intentions to drop-out and continue, the fit of the empowering climate model (see Figure 2) was excellent (CFI = .962; IFI = .963; SRMR = .037) to adequate (RMSEA = .089, 90% CI = .061 – .121). In this model, AMOS recommended additional paths between need satisfaction and players' intentions to continue playing and

drop-out, which are consistent with the predictions of SDT. The pathway to dropout was significant and negative, while the pathway to continued participation was significant and positive.

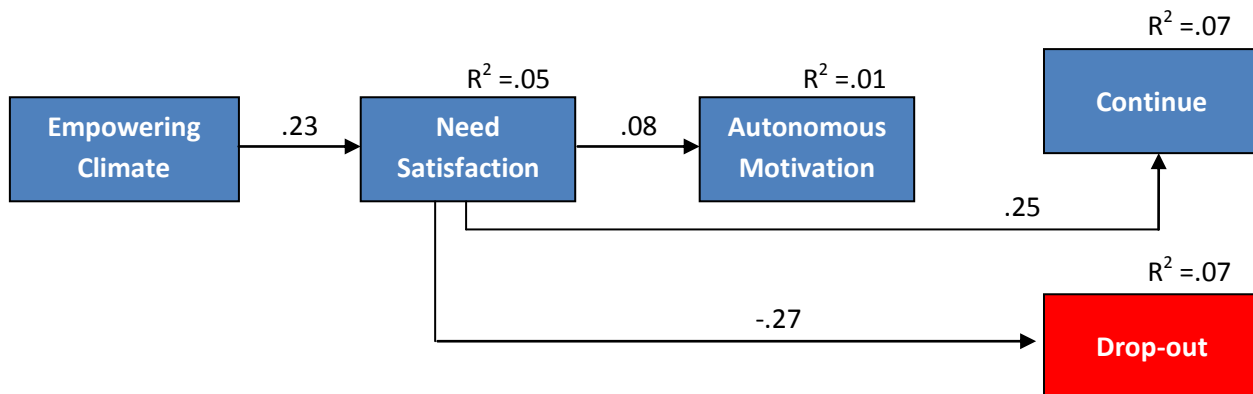


Figure 2. Empowering climate model predicting intentions to drop-out and continue playing football in older footballers

In terms of players' general vitality and self-esteem, the fit of the empowering climate model (see Figure 3) was, overall, adequate (CFI = .900; IFI = .900; SRMR = .037; RMSEA = .139, 90% CI = .110 – .169). In this model, autonomous motivation was a significant and positive predictor of athletes' self-esteem. AMOS recommended additional paths between need satisfaction and players' vitality and self-esteem, which are consistent with the predictions of SDT. Both pathways were significant and positive.

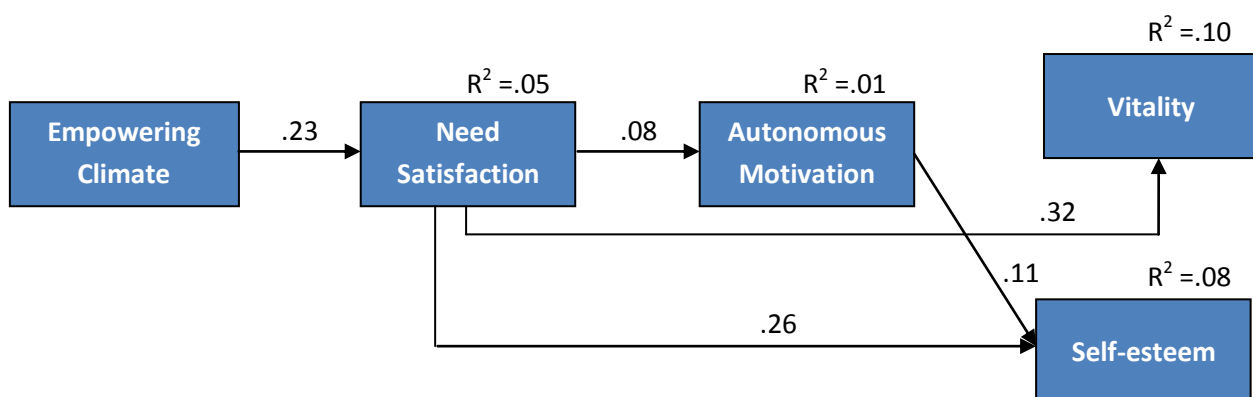


Figure 3. Empowering climate model predicting general vitality and self-esteem in older footballers

The fit of the disempowering climate model predicting enjoyment and anxiety (see Figure 4) was excellent (CFI = .961; IFI = .962; SRMR = .032) to adequate (RMSEA = .084, 90% CI = .055 – .116). In this model, disempowering climate was a significant predictor of basic psychological need thwarting, which in turn was a significant positive predictor of controlled motivation (N.B. As these paths are consistent across the models, they will not be reported again the following sections). Controlled motivation was subsequently a positive predictor of players' enjoyment. AMOS recommended additional paths between need thwarting and players' enjoyment and anxiety, which are consistent with the predictions of SDT. The additional path to enjoyment was significant and negative, while the additional path to anxiety was significant and positive.

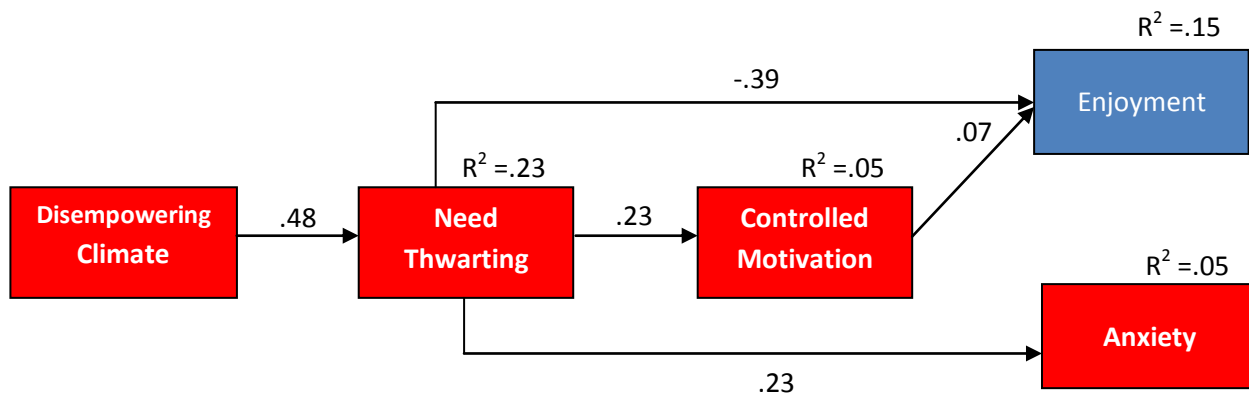


Figure 4. Disempowering climate model predicting enjoyment and anxiety in older footballers

The fit of the disempowering climate model predicting intentions to continue playing and drop-out (see Figure 5) was excellent (CFI = .971; IFI = .972; SRMR = .039) to adequate (RMSEA = .094, 90% CI = .066 – .126). In this model, controlled motivation was a positive predictor of players' intentions to continue playing. AMOS recommended additional paths between need thwarting and players' intentions to continue playing and drop-out, which are consistent with the predictions of SDT. The additional path to continue playing was significant and negative, while the additional path to dropout was significant and positive.

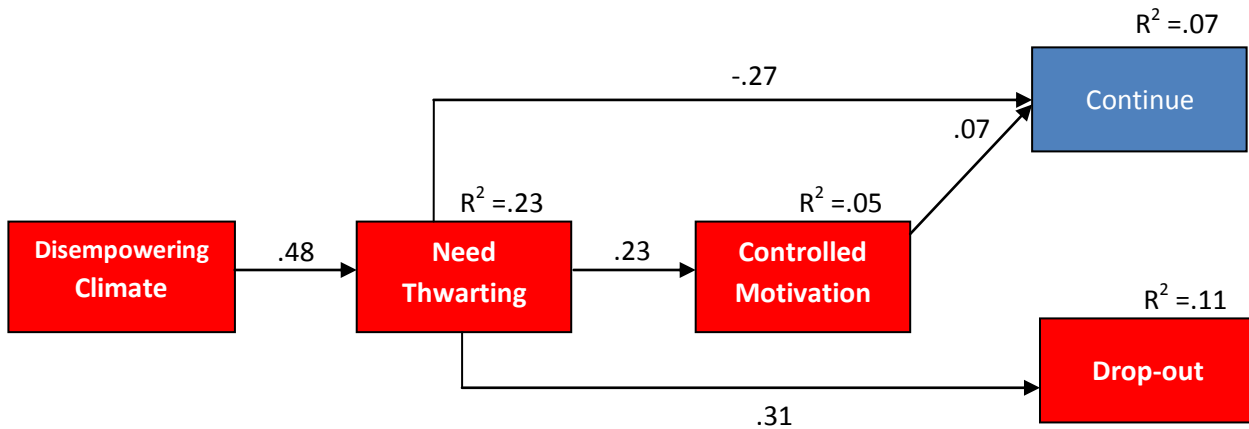


Figure 5. Disempowering climate model predicting intentions to continue playing and dropout in older footballers

The fit of the disempowering climate model predicting vitality and self-esteem (see Figure 6) was excellent (CFI = .985; IFI = .985; SRMR = .026) to adequate (RMSEA = .061, 90% CI = .032 – .094). In this model, controlled motivation was a positive predictor of players' vitality. AMOS recommended additional paths between need thwarting and players' vitality and self-esteem, which are consistent with the predictions of SDT. The additional paths were significant and negative.

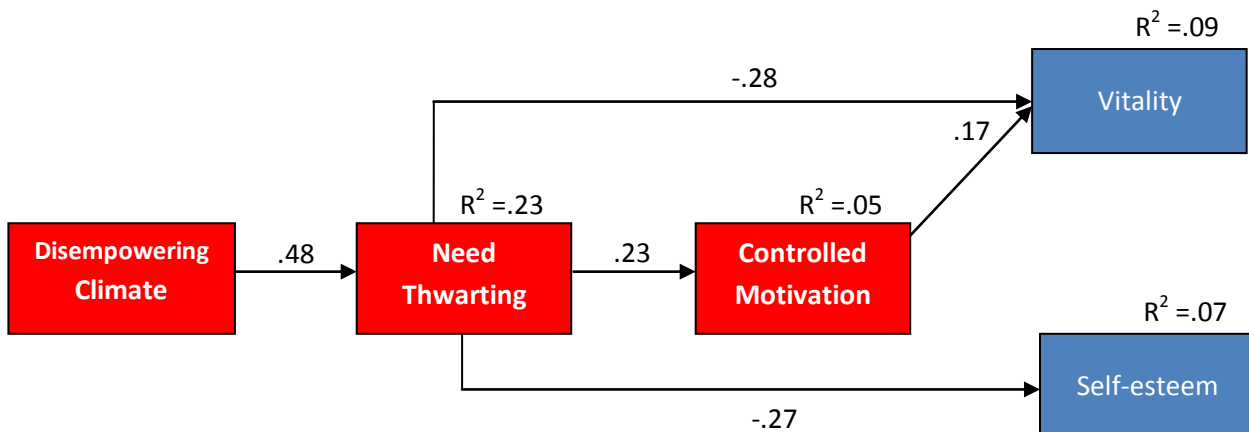


Figure 6. Disempowering climate model predicting general vitality and self-esteem in older footballers

Testing for model invariance in older and younger footballers: The younger footballers from the PAPA project did not complete a measure of psychological need thwarting. Therefore, tests of invariance between the older and younger footballers were limited to the empowering climate process models only. The results are presented in Table 17.

Analyses revealed there were a number of significant differences between older and younger footballers in the hypothesized pathways. The majority of these differences were the result of variability in the strength of the pathway across the two age groups rather than the direction (i.e., positive or negative) of the pathway. For example, the strength of the pathways between basic need satisfaction and autonomous motivation (positive), autonomous motivation and enjoyment (positive), and autonomous motivation and intentions to continue playing (positive) were significantly different between younger and older players, albeit the direction of the pathway (i.e., positive or negative) was the same across the two groups. This was also the case for the additional pathways from basic need satisfaction to enjoyment, intentions to continue playing, vitality and self-esteem (all positive).

Interestingly, the pathway from empowering climate to basic need satisfaction was significant in older players but not significant in younger players. This was also the case for the additional path between basic need satisfaction and intentions to drop-out. In contrast, while the relationships between autonomous motivation and intentions to drop-out, and autonomous motivation and vitality were significant and positive in younger players, they were non-significant in the older players.

Hypothesised Pathways	Older Players		Younger Players		z-score
	Unstandardised Estimate	<i>p</i>	Unstandardised Estimate	<i>p</i>	
Em – BNS	.265	.000	.002	.958	-5.122*
BNS – Auto Mot	.055	.015	.266	.000	7.235*
Auto Mot – Enjoy	.105	.002	.241	.000	2.539*
Auto Mot – DO	.081	.141	-.193	.000	-3.85*
Auto Mot – Cont	.078	.129	.230	.000	1.921*
Auto Mot – SE	.140	.000	.172	.000	.548
Auto Mot – Vit	-.061	.205	.231	.000	4.345*
Additional Pathways					
BNS – Enjoy	.362	.000	.144	.000	-6.061*
BNS – DO	-.366	.000	-.065	.054	5.749*
BNS - Cont	.319	.000	.174	.000	-2.7*
BNS - Vit	.383	.000	.234	.000	-3.393*
BNS – SE	.233	.000	.101	.000	-3.393*

Table 17. Test of invariance across the hypothesized pathways in younger and older footballers

Note. Em = empowering climate; BPN = basic psychological need satisfaction; Auto Mot = autonomous motivation; Enjoy = Enjoyment in sport; DO = Intentions to drop-out of sport; Cont = Intentions to continue playing sport; Vit = vitality; SE = self-esteem. * $p < .05$

Testing for model invariance in footballers (younger and older) across the five

countries: Analyses (see Tables 18 and 19) revealed there were a number of significant differences in the hypothesized pathways between footballers from the five different countries. As per the results from the previous invariance analysis (Table 17), the majority of these differences were the result of variability in the strength of the pathways across the footballers from the five countries rather than the direction (i.e., positive or negative) of the pathways. Importantly, the majority of the pathways from basic psychological need

satisfaction and thwarting to motivation and the targeted outcomes were significant across the five countries.

A key difference was the hypothesized pathway between the empowering climate and footballers' psychological need satisfaction. This pathway was in the expected direction in the French, Spanish, Greek and Norwegian data; however, contrary to the theory underpinning the model, the relationship was negative in the English footballers. In contrast, the relationship between disempowering climate and need thwarting was, as expected, positive and significant across the five countries. Moreover, this relationship was very strong in all footballers suggesting coaches' disempowering behaviours are key predictors of the extent to which female footballers feel that their competence, autonomy and relatedness are being actively frustrated in football. One other noticeable difference was in the pathway from controlled motivation to footballers' intentions to continue playing. In Greece this relationship was, unexpectedly, positive; a finding that was not replicated in the other four countries.

Hypothesised Pathways	Unstandardised Estimate					z-score
	England	France	Spain	Greece	Norway	
Em – BNS	-.149*	.207*	-.007	.094	.151*	Eng vs Fra* Eng vs Spa* Eng vs Gre* Eng vs Nor* Fra vs Spa* Spa vs Nor*
BNS – Auto Mot	.345*	.200*	.190*	.107*	.213*	Eng vs Fra* Eng vs Spa* Eng vs Gre* Eng vs Nor* Gre vs Nor*
Auto Mot – Enjoy	.106*	.322*	.183*	.138*	.205*	Eng vs Fra* Eng vs Spa* Eng vs Nor* Fra vs Spa* Fra vs Gre*
Auto Mot – Anx	-.055	.033	-.126	.168	.018	Eng vs Gre* Spa vs Gre*
Auto Mot – DO	-.091	-.300*	-.123	-.093	-.158*	
Auto Mot – Cont	.092	.271*	.214*	.005	.238*	Fra vs Gre* Spa vs Gre* Gre vs Nor*
Auto Mot – SE	.169*	.406*	.136*	.055	.053	Eng vs Fra* Fra vs Spa* Fra vs Gre* Fra vs Nor*
Auto Mot – Vit	.388*	.408*	.351*	.053	.003	Eng vs Gre* Eng vs Nor* Fra vs Gre* Fra vs Nor* Spa vs Gre* Spa vs Nor*
Additional Pathways						
BNS – Enjoy	.469*	.290*	.232*	.204*	.116*	Eng vs Spa* Eng vs Gre* Eng vs Nor* Fra vs Nor* Spa vs Nor*
BNS – Anx	-.170*	.050	-.017	-.284*	-.042	Eng vs Fra* Fra vs Gre* Spa vs Gre* Gre vs Nor*
BNS – DO	-.364*	-.036	-.269*	-.230*	-.136*	Eng vs Fra* Eng vs Nor* Fra vs Spa* Spa vs Nor*
BNS – Cont	.408*	.109	.286*	.343*	.124*	Eng vs Fra* Eng vs Nor* Fra vs Spa* Fra vs Gre* Spa vs Nor* Gre vs Nor*
BNS – Vit	.396*	.384*	.492*	.377*	.132*	Eng vs Nor* Fra vs Nor* Spa vs Nor* Gre vs Nor*
BNS – SE	.371*	.197*	.302*	.187*	.060	Eng vs Fra* Eng vs Gre* Eng vs Nor* Fra vs Nor* Spa vs Gre* Spa vs Nor* Gre vs Nor*

Table 18. Test of invariance across the hypothesized empowering climate pathways in footballers across five countries

Hypothesised Pathways	Unstandardised Estimate					z-score
	England	France	Spain	Greece	Norway	
Dis – BNT	.757*	.608*	.713*	.570*	.559*	Eng vs Gre* Eng vs Nor* Spa vs Gre* Spa vs Nor*
BNT – Con Mot	.526*	.299*	.352*	.286*	.261*	Eng vs Fra* Eng vs Spa* Eng vs Gre* Eng vs Nor* Gre vs Nor*
Con Mot – Enjoy	.097	.225*	.076	-.050	.096*	Eng vs Spa* Eng vs Nor* Fra vs Spa* Fra vs Gre* Gre vs Nor*
Con Mot – Anx	.156	.019	.065	-.200	.018	Eng vs Gre* Spa vs Gre*
Con Mot – DO	.114	.056	.101	-.093	-.034	
Con Mot – Cont	-.005	.158	-.020	.444*	.082	Eng vs Gre* Fra vs Gre* Spa vs Gre* Gre vs Nor*
Con Mot – SE	-.022	.153*	.198*	.035	.037	Eng vs Fra* Eng vs Spa* Fra vs Gre* Spa vs Gre
Con Mot – Vit	-.043*	-.401*	.193*	.067	.111	Eng vs Fra* Eng vs Spa* Eng vs Gre* Fra vs Nor* Spa vs Nor*
Additional Pathways						
BNT – Enjoy	-.479	-.330*	-.264*	-.381*	-.335*	Eng vs Fra* Eng vs Spa* Eng vs Gre* Eng vs Nor* Spa vs Nor*
BNT – Anx	.211*	.050	.351*	.382*	.393*	Spa vs Gre* Gre vs Nor*
BNT – DO	.424*	.370*	.305*	.453*	.270*	Eng vs Nor* Spa vs Nor*
BNT – Cont	-.397*	-.188*	-.390*	-.532*	-.178*	Eng vs Fra* Fra vs Spa* Fra vs Gre* Spa vs Nor* Gre vs Nor*
BNT – Vit	-.222*	-.469*	-.408*	-.433*	-.366*	Eng vs Fra* Eng vs Spa* Eng vs Gre* Spa vs Nor*
BNT – SE	-.212*	-.401*	-.311*	-.250*	-.209*	Eng vs Fra* Fra vs Gre* Fra vs Nor* Spa vs Nor*

Table 19. Test of invariance across the hypothesized disempowering climate pathways in footballers across five countries

Note. Em = empowering climate; Dis = disempowering climate; BPN = basic psychological need satisfaction; BPN = basic psychological need thwarting; Auto Mot = autonomous motivation; Con Mot = controlled motivation; Enjoy = Enjoyment in sport; Anx = Anxiety DO = Intentions to drop-out of sport; Cont = Intentions to continue playing sport; Vit = vitality; SE = self-esteem. * $p < .05$

Testing for model invariance in footballers (younger and older) and non-footballers:

Analyses (see Tables 20 and 21) revealed there were a number of significant differences in the hypothesized pathways between footballers and females playing other sports. The majority of these differences were the result of variability in the strength of the pathway across the two groups rather than the direction of the pathway. That is, the direction of the majority of pathways was the same in the footballers and athletes from the other sports, although the strength of the relationships differed across the two groups.

The direction (i.e., positive or negative) of a small number of pathways differed across the two groups. The hypothesized relationship between autonomous motivation and enjoyment was significant and positive in footballers, but non-significant in athletes from the other sports. In addition, the relationship between autonomous motivation and anxiety was negative in footballers (as hypothesised), but positive in the other sport athletes. Basic need satisfaction was a non-significant predictor of anxiety in footballers, but a positive predictor in the non-football athletes. Regarding the disempowering climate models, controlled motivation was a significant positive predictor of footballers' intentions to continue playing, but a negative predictor in the other sport athletes. Furthermore, controlled motivation was a non-significant predictor of self-worth in the footballers, but (as hypothesised) a significant negative predictor in the non-footballers. Finally, controlled motivation was a significant positive predictor of vitality in footballers, but a non-significant predictor in the athletes from other sports.

Hypothesised Pathways	Footballers		Other sports		z-score
	Unstandardised Estimate	<i>p</i>	Unstandardised Estimate	<i>p</i>	
Em – BNS	.055	.010	.176	.000	3.017*
BNS – Auto Mot	.191	.000	.064	.002	-4.66*
Auto Mot – Enjoy	.148	.000	.026	.387	-3.349*
Auto Mot - Anx	-.114	.004	.118	.014	3.763*
Auto Mot – DO	-.145	.000	-.192	.002	-.674
Auto Mot – Cont	.151	.000	.362	.000	3.133*
Auto Mot – SE	.213	.000	.144	.000	-1.741*
Auto Mot – Vit	.231	.205	..019	.597	-4.609*
Additional Pathways					
BNS – Enjoy	.259	.000	.431	.000	6.055*
BNS – Anx	.029	.368	-.091	.012	-2.472*
BNS – DO	-.215	.000	-.174	.000	.750
BNS – Cont	.253	.000	.242	.000	-.217
BNS – Vit	.306	.000	.447	.000	3.928*
BNS – SE	.159	.000	.265	.000	3.483*

Table 20. Test of invariance across the hypothesized empowering climate pathways in footballers and females playing other sports

Hypothesised Pathways	Footballers		Other sports		z-score
	Unstandardised Estimate	<i>p</i>	Unstandardised Estimate	<i>p</i>	
Dis – BNT	.638	.000	.513	.000	-3.07*
BNT – Con Mot	.344	.000	.225	.000	-3.785*
Con Mot – Enjoy	.090	.000	-.032	.330	-3.02*
Con Mot - Anx	.079	.046	.192	.000	1.797*
Con Mot – DO	.050	.124	.472	.000	5.764*
Con Mot – Cont	.071	.034	-.312	.000	-5.312*
Con Mot – SE	.003	.918	-.141	.000	-3.467*
Con Mot – Vit	.083	.007	-.017	.666	-1.977*
Additional Pathways					
BNT – Enjoy	-.362	.000	-.358	.000	.110
BNT – Anx	.343	.000	.386	.000	.747
BNT – DO	.373	.000	.114	.029	-4.08*
BNT – Cont	-.345	.000	-.141	.00	3.235*
BNT – Vit	-.366	.000	-.351	.000	.322
BNT – SE	-.261	.000	-.285	.000	-.636

Table 21. Test of invariance across the hypothesized disempowering climate pathways in footballers and females playing other sports

Note. Em = empowering climate; Dis = disempowering climate; BPN = basic psychological need satisfaction; BPN = basic psychological need thwarting; Auto Mot = autonomous motivation; Con Mot = controlled motivation; Enjoy = Enjoyment in sport; Anx = Anxiety DO = Intentions to drop-out of sport; Cont = Intentions to continue playing sport; Vit = vitality; SE = self-esteem. * $p < .05$

Summary of Key Findings and Recommendations

1. Table 3a revealed that the majority of older footballers across the five countries reported that their coach was male. This finding was especially pronounced in Norway, where there were no female coaches. This finding provides further evidence that fewer women, compared to men, are coaching in female football, and strengthens UEFA's decision to invest funding to address this issue. While it may be beneficial to have more women coaches (and specifically more women coaches with coaching qualifications), it is worth noting that the majority of players indicated that they "didn't care" whether their coach was male or female.
2. Table 3b provides evidence that, generally, the older female footballers are satisfied with the conditions of pitches, hours spent training, changing rooms, and (importantly from the perspective of this study on the coach-created motivational climate) the quality of their coaching. However, **there are still a significant number of female footballers who are less satisfied with these issues (especially the condition of training facilities)**. Future research should attempt to understand the reasons behind this dissatisfaction.
3. While Tables 3a-c reveal some of the factors that may influence a female's experience in football and their intentions to continue playing (or drop-out), one key finding from this current project is that the effects of the majority of these factors "disappear" once the motivational climate created by the coach is taken into consideration. That is, Tables 17-21 demonstrate that the extent to which **the coach-created motivational climate is empowering or disempowering is more important when understanding what determines whether females have a positive (i.e., promotes basic psychological need satisfaction, enjoyment, intentions to continue playing, general well-being) or negative (i.e., intentions to drop-out) experience in football.**
4. It is interesting to note that many of the coaches decided to begin coaching women's teams

because of the passion for women's football (see Table 4) and/or for more autonomous reasons (see Table 5). Coaching that is underpinning by autonomous passion and motivation (e.g., for the love of the game, help players develop) has been found to be associated with more empowering forms of coaching, as well as coaches' own feelings of well-being. However, research evidence also shows that when coaches lack feelings of competence, autonomy and relatedness towards their coaching, they are more likely to create a disempowering motivational climate for their players (Stebbing, Taylor, Spray & Ntoumanis, 2012). **Therefore, clubs, regional football associations, national football associations and UEFA should ensure that their coaches' psychological needs towards coaching continue to remain high on a consistent basis.**

5. There were few significant mean differences across the targeted variables between footballers and female athletes from the "other-sports". Interestingly, scores on the empowering climate dimensions were significantly higher in the other sports across the five countries, albeit the mean scores were generally between the 2-3 response categories. Conversely, there was some evidence that the coach-created climate is significantly less disempowering in football (specifically in Spain, Norway and England) than other sports, albeit the mean scores were also around the 2-3 response categories. The implications of these findings are that, from a practical perspective, the coach-created motivational climate in football compared to other sports is similar in the extent to which they are disempowering and empowering. **From the perspective of women's football in Europe, it is evident that footballers in the current sample perceived the climate to be just as empowering as it is disempowering. Moreover, the mean scores suggest there is substantial room for women's football coaches to become more empowering and less disempowering.**

6. Table 16 revealed that footballers' intentions to drop-out at the end of seasons were generally low, while their intentions to continue playing were generally high. While this findings suggests that players will still be playing football next season, it is worth noting

these findings only provide a “snap shot” of the players’ behavioural intentions at one moment in time. Previous longitudinal research has showed that swimmers’ actual drop-out increased over the course of 2 years, and these changes were partly explained by low perceptions of an empowering climate (Pelletier et al. 2001). Moreover, in the PAPA project, we demonstrated that the extent to which the motivational climate in football is empowering reduces over the course of the season, while the extent to which the climate was disempowering increased. **Thus, to ensure the players’ intentions to drop-out remain low (and intentions to continue playing remain high) over time (i.e., season to season) it is imperative the motivational climate created by coaches is consistently empowering (and less disempowering).**

7. Related to the previous point, the importance of creating an empowering climate (and avoiding the adoption of disempowering behaviours) was further highlighted in the motivation-related process models (see Figures 1-6). Overall, the findings related to the models provide evidence that an **empowering motivational climate created by coaches in women’s football is related to indicators of quality of motivation and engagement, sustained participation and well-being in the footballers.** In contrast, **coach-created environments that are more disempowering environments are more likely, via psychological need thwarting, to contribute to athletes’ intentions to drop-out of football and other negative outcomes associated with compromised athlete engagement and well-being.** Importantly, while there were some differences in the direction of the paths across the groups, the majority of the findings were close to being the same for younger and older female footballers, and between footballers across the five countries (see Tables 17-19). The findings from the process models therefore complement previous evidence from studies with male footballers (e.g., Adie et al., 2008; Alvarez et al., 2009; Reinboth et al, 2004).

8. There were a small number of findings from the path models that were inconsistent with the assumptions of SDT and AGT. In particular, empowering climate was a non-significant

predictor of basic psychological need satisfaction in younger footballers, and a negative predictor in the English footballers. These findings are also inconsistent with the evidence from previous research, and thus future studies should determine whether these findings are replicated in additional samples of female footballers. It may be that, for the younger and English footballers, other motivational climates created by additional significant others (e.g., parents, peers and teammates) are more dominant in explaining the satisfaction of the players' psychological needs, reducing the positive influence of the coach-created climate.

Likewise, the positive pathways between controlled motivation and enjoyment, intentions to continue participating and general feelings of vitality in the older footballers are inconsistent with previous research. It is possible that, at least in the short-term, controlled motivation could be associated with more positive outcomes in footballers, especially when their reasons for taking part (i.e., winning awards, gaining recognition from the coach) are achieved. However, over the long-term, it is unlikely these controlled reasons will be as beneficial (especially when compared to autonomous reasons) as rewards and recognition are more difficult to achieve on a week-by-week basis, a point that is supported by previous research (e.g., Pelletier et al., 2001).

Recommendation: In the 2014-15 UEFA Women's Football Across the nations document, it is acknowledged that participation rates in women's football continue to grow across Europe. With more money being allocated to training female coaches, UEFA also expects that the women's game will continue to thrive in the next decade. However, to ensure this objective is met, UEFA also recognised that "The biggest challenge for the national associations is not only to continue to promote women's football and increase the number of registered players, but also to keep these young players playing regularly in the longer term".

The evidence from the current study suggests that a key factor that will ensure this objective is met is the extent to which the motivational climate in women's football is empowering (and less disempowering).

Current football coach qualifications (e.g., UEFA B and A) do an excellent job of enhancing coaches' competences regarding tactical and skill-based football knowledge. However, to date, football coach qualifications in Europe pay little attention to the coach-created motivational climate with a view of helping coaches to understand how to become more empowering and less disempowering in training and matches. This is somewhat surprising given there is over 30 years of research from the sport psychology literature that has identified the coach-created motivational climate as a key factor in determining the quality of an athlete's experience in sport, and whether the athlete continues to participate or eventually drops-out. Within the recent PAPA project, we also showed that it is possible to train football coaches to change their behaviour so that it becomes more empowering (and less disempowering) over the course of a season.

The findings presented in this report confirm that, in the context of women's football, theory and evidence-based education programmes are now needed that specially target how coaches can create more empowering motivational climates (and less disempowering climates) in women's and girl's football. This is especially important given the data presented in this report suggests coaches' empowering scores could be improved further (and disempowering scores decreased), as well as the positive correlates of empowering climates (and negative correlates of a disempowering climate), including players reporting stronger intentions to continue playing football. Deliver of the *Empowering Coaching*TM training programme [see www.empoweringcoaching.co.uk, Duda (2013) and Duda et al. (2013)] across the nations, for example, would be an important step forward in this regard. **We propose that delivery of Empowering CoachingTM will help to further increase female football coaches' competencies and, in turn, ensure that women and girls are more likely to have a quality experience in football and continue "playing regularly in the longer term".**

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