

---

# Norwegian Elite-Level Coaches: Who Are They?

**Kari Fasting**

**Mari Kristin Sisjord**

**Trond Svela Sand**

Department of Cultural and Social Studies  
Norwegian School of Sports Sciences  
Authors contact: <kari.fasting@nih.no>

## Abstract

Previous studies have shown that there is an underrepresentation of female coaches and a lack of opportunities for women to coach males, particularly at the elite-level. Very few studies, however, have focused on elite-level coaches' demographics and whether these vary with respect to gender. The aim of this article is to get an overview of the gender distribution of Norwegian national team coaches with respect to different demographic variables, such as age, education and marital status. Furthermore, athletic background, coach education and coaching experience are examined. The results are based on data from an online survey among coaches who in 2012 worked as national team coaches (n=197). The main result is that the female and male coaches seem to be very similar, which is in contrast to the majority of previous research among elite-level female coaches. Another contradiction to previous studies, which mostly consist of qualitative research, is that the present quantitative study is based on a sample of national team coaches from all sports in Norway. Only 14% of the elite-level coaches are women. The explanation for this underrepresentation is discussed with respect to structural barriers that may be particularly relevant for elite-level coaching: sex-typing, stereotyping and homologous reproduction.

*Key words:* national team coaches, elite-level sport, gender, discrimination, survey

## Introduction

Regardless of performance level and in spite of the fact that the number of women active in sport has increased dramatically over the last 50 years (Acosta & Carpenter, 2014; Fasting & Sand, 2009) sport is still a male dominated arena, especially when it comes to positions in elite-level coaching (Pfister, 2010). The gender distribution of coaches at major sporting events gives an indication of the lack of female coaches at this level. At the 2012 Olympic Games in London, 19 of the 93 Canadian coaches were women (Kidd, 2013). At the same Olympics the German delegation consisted of 407 athletes of whom 44% were women, but only five of the 51 coaches were women (Pfister, 2013). Examples from different countries at the 2014 Winter Olympics in Sochi illustrates the under-representation of female coaches: 13% ( $n=11$ ) of the Canadian coaches; 9% ( $n=6$ ) of the American coaches; 9% ( $n=4$ ) of the Swedish coaches; and 6% ( $n=3$ ) of the Norwegian coaches were women (Canadian Association for the Advancement of Women and Sport and Physical Activity, 2014; Norwegian Olympic and Paralympic Committee and Confederation of Sports, 2014; Sveriges Olympiska Kommitté, 2014; Team USA, 2014).

In this article we focus on what characterizes these coaches who reach the highest level in coaching. We will provide an overview of the gender distribution among Norwegian national team coaches, and identify and analyze the female and male elite-level coaches with respect to demographic variables. Such knowledge should be useful for sport policy makers in general, and especially for those who are responsible for the education and recruitment of elite-level coaches. The knowledge produced in the article may specifically contribute to closing the gender gap that seems to exist in elite level coaching, by using the knowledge to target specific groups of potential elite level female coaches.

The results presented are from a larger Norwegian research project entitled “The Elite-level Coaching Role and Gender.” The project aims to increase the knowledge of Norwegian elite-level coaches with a focus on their background, experiences from coaching and their attitudes towards female coaches. In this article the focus is on the coaches of national teams. A “National team coach” is defined as “individuals who are involved as coaches for an athlete, group of athletes, and/or a team organized by a Norwegian sport federation with the purpose of representing Norway at international competitions and/or championships; and/or

developing athletes for future representation for Norway in international competitions and/or championships (e.g. talent groups, junior national teams, etc.).”

## Prior studies about elite-level coaches

We found only a few quantitative studies exploring the demographics of elite-level coaches. Findings from three studies, one from Denmark (Storm & Tofft-Jørgensen, 2013), one from Switzerland (Swiss Federal Institute of Sports Magglingen, 2011) and one from USA (Sellers, 2007) indicate that the typical elite-level coach is between 30 and 50 years of age, relatively highly educated, had been elite-level athlete (70-80%), and had been coaching for more than 10 years.

Other studies show that there is a lack of female coaches at the highest performance level. This is shown in studies from Australia (Commonwealth of Australia, 2006) and USA (Acosta & Carpenter, 2014). Studies from Europe demonstrate that women make up between 13 and 17% of elite-coaching positions (Kajtna, 2008; Riksidrottsförbundet, 2006; Pfister, 2013; Storm & Tofft-Jørgensen, 2013; Swiss Federal Institute of Sports Magglingen, 2011). So far, we can conclude that there is a lack of information about the relationships between gender and demographic variables with respect to elite-level coaches. This seems to be due to the fact that the studies about demographic characteristics of elite-level coaches do not report on gender differences, and that the studies on gender differences don't seem to provide any information about demographic variables, which is the topic of this article.

We have only identified two studies that analyze the gender related to other demographic variables: one from Slovenia and one from Sweden. The Slovenian study revealed that 37 (13.5%) of 275 elite-level coaches were women (Kajtna, 2008). There was no significant age difference between the male and the female coaches, and the mean age of 38.9 (SD=10.01) is similar to the three studies above. The Slovenian coaches were highly educated as well, but with a considerable gender difference in that a much larger proportion of the female than male coaches had studied at the university level. Furthermore, it was found that more women than men were coaching individual sports, and none of the women were head coaches in any of the major sports. In the Swedish study 13% out of 351 coaches were women (Riksidrottsförbundet, 2006). In contrast

to the Slovenian study, the male coaches were somewhat older than the females, averaging 42 and 37 years respectively. But the study is similar to the Slovenian findings with respect to gender difference in relation to education. While as many as 76% of the women had a university education, only 52% of the men did. Furthermore, 44% of the men worked as full-time coaches compared to 33% of the women.

The Swedish study also investigated family relations and experience as athletes, but no gender differences were found. About two-thirds of both genders were married and had children; and about two-thirds had been elite-level athletes themselves. Based on these two studies there seem to be some differences in demographics between male and female elite-level coaches, yet both report higher levels of education among female elite-level coaches than among males.

As mentioned in the introduction, the aim of this article is to provide an overview of the gender distribution of Norwegian national team coaches and to identify and analyze the female and male elite-level coaches with respect to demographic variables. With reference to the studies presented above the demographic analysis includes the following variables: age, education, marital status and children. Furthermore, athletic background, coach education, coaching experience, and present coaching situation (occupational status, how recruited, additional coach position, head/assistant coach, gender of athletes coached and team/individual sport coached) were examined.

## Methodology

The population for the study presented in this article was national team coaches working for one of the Norwegian sport associations that are members of the Norwegian Olympic and Paralympic Committee and Confederation of Sports (NIF), a total of 51 federations. At the time of the data-gathering NIF had 54 federations; however, three did not compete in elite-level sports and were thus excluded. The names of the national team coaches and their e-mail addresses were obtained by contacting the administration in each sport federation.

The research questions answered in the present article are based on data from an online survey conducted during the spring of 2012 among coaches who worked as national team coaches ( $n=316$ ) or coaches who had completed NIF's elite-coach education ( $n=153$ ). The response rate

was 67%; however women had a higher response rate (76%) compared to men (65%). The response rate was found to be satisfactory given that online surveys normally provide lower response rates than paper surveys (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008; Shih & Fan, 2008). Accordingly, the response rate of the present study is higher than what is typical for many online surveys (Archer, 2008; Fricker & Schonlau, 2002; Livingston & Wislar, 2012). Due to the scope of the present article, only answers from the national team coaches ( $n=197$ ) have been included in the analyses. The 197 coaches were considered as representative for Norwegian National team coaches as 86% ( $n=44$ ) out of the 51 sport federations in the population were included. The seven not represented were all smaller federations and three of them did not have any national team coaches engaged for their athletes. The other four had six national team coaches in 2011, however none of those responded to the survey.

The coaches received e-mails containing information about the study objectives which included a URL link to the online questionnaire hosted by Questback, a provider of online survey platforms. The participants were guaranteed confidentiality and were informed that the project was registered and approved by the Norwegian Data Supervision Bureau (NSD). The questionnaire contained a wide range of questions addressing the characteristics of Norwegian elite-level coaches. The head of sport psychology and the assistant chief of elite sport from Olympiatoppen (NIF's organization for elite sport) were consulted in the development of the questionnaire, that subsequently was tested on a group of sport coaching students ( $n=20$ ). Some minor corrections were made based on comments given by the students and relevant for the present article. Open response-categories were added to the questions regarding "coach education" to capture other aspects than the fixed response alternatives.

Data coding and analysis were conducted in IBM SPSS Statistics 21. Descriptive statistics and cross-tabulations were generated with chi-square goodness-of-fit tests by the exact method – which is preferable in situations with unbalanced or poorly distributed data (Mehta & Pathel, 2012). This was particularly important due to the skewed distribution of women and men. A significance level of 0.05 was used for all analyses of differences between female and male coaches.

## Results

The results are presented in three tables: Table 1 concerns general demographics (age, education and marital status); Table 2 presents the participants' athletic experience, their coach education, and the number of years they have been coaching; Table 3 describes important parts of the participants' coaching role today – such as the professionalization of their coaching role (part- or full-time plus additional coaching jobs), how they got their job, their present coaching position (head or assistant coach), the gender of their athletes, and the sport type (individual and/or team) coached.

### *General demographics*

Fourteen percent of the National team coaches in Norway are women, which is about the same as in the European studies referred to above. This result indicates however, that the number of Norwegian elite-level female coaches has increased during recent years, since the percentage was only 8% in 2007 (Fasting, Sand, Sisjord, Thoresen & Broch, 2008). There were no statistically significant differences between the sexes with respect to demographic characteristics. Table 1 shows that the female and male national team coaches were about the same age, more than half of them were between 36 and 50 years old, and they were highly educated; more than half had four years or more of university education. The corresponding numbers for the Norwegian adult population (>16 years) is 34% among women and 28% among men (Statistics Norway, 2015). Most of the coaches were married or lived with a partner and had responsibility for children under 18 years old. The fact that there was no difference between the female and male coaches' marital status is similar to the Swedish study mentioned above (Riksidrottsförbundet, 2006). Our results are however different from the studies from Slovenia and Sweden which found that female elite-level coaches often were better educated than the males.

Table 1. *The demographics of female and male national team coaches.*

	Women (n=27) n (%)	Men (n=170) n (%)	Total (n=197) n (%)
<i>Age</i>			
21-35	11 (41)	58 (34)	69 (35)
36-50	15 (56)	83 (49)	98 (50)
≥ 51	1 (4)	29 (17)	30 (15)
<i>Education</i>			
Primary/vocational/high school	4 (15)	38 (23)	42 (22)
University 1-3 years	7 (26)	43 (26)	50 (26)
University ≥ 4 years	16 (59)	87 (52)	103 (53)
<i>Marital status and children</i>			
Married/partner, children ≤18y	13 (48)	93 (56)	106 (55)
Married/partner, no children	8 (30)	45 (27)	53 (27)
Single, children ≤18y	0 (0)	3 (2)	3 (2)
Single, no children	6 (22)	25 (15)	31 (16)

*Athletic and coaching experiences*

Studies mentioned earlier showed that the experience of being an elite-level athlete seems to be an advantage in relation to becoming an elite-level coach, which also was revealed in our study. As shown in Table 2 almost two-thirds of the coaches had competed at an international level, and there was no statistically significant difference between the sexes. This is comparable to the Swedish study. Furthermore, 15% (16 men and 4 women) did not have any specific coaching education. Taking into account that they were coaching at an elite-level, this was surprising. Further analysis revealed that as many as 12 (29%) of these had only primary/vocational or high school education, which indicates that they were self-taught. In accordance with other studies presented above, the coaches appeared to be a group with significant experience; about two-thirds had been coaching more than 11 years. Significantly more men than women had more than 16 years of coaching experience.

Table 2. *Experience as athlete, coach education and number of years coaching among female and male national team coaches.*

	Women (n=27) n (%)	Men (n=170) n (%)	Total (n=197) n (%)
<i>Experience as athlete</i>			
Local/regional/national	6 (22)	63 (38)	69 (36)
International level	21 (78)	102 (62)	123 (64)
<i>Coach education</i>			
No	1 (4)	28 (16)	29 (15)
Yes	26 (96)	142 (84)	168 (85)
<i>Number of years coaching*</i>			
0-10 years	11 (41)	62 (36)	73 (37)
11-15 years	10 (37)	34 (20)	44 (22)
≥16 years	6 (22)	74 (44)	80 (41)

\*  $p \leq 0.05$ 

### *Present coaching situation*

Many of the sports federations in Norway are relatively small and cannot afford full-time paid coaches for the national team(s). It is therefore not surprising that only 55% coached full-time and that 42% had another coaching position in addition to being a national team coach (Table 3). Furthermore, two-thirds were head coaches and a large majority (91%) had been asked to take the job without any formal announcement. There were however no statistical differences between female and male national team coaches with respect to these four variables. This is different from the Swedish study reported earlier, where more men than women worked full-time as a national coach. Table 3 further reveals that most of the coaches trained both female and male athletes, but the domination of males in the coaching profession was also very clearly mirrored in the gender of the athletes that these coaches work with: 7% of the women were coaching men only, whereas 15% of the males were coaching only women. Most coaches, about two-thirds, coached individual sports. There was no statistical difference between the sexes, as found in the study from Slovenia where more female than male coaches were coaching individual sports.



Table 3. *Descriptions of coaching positions among female and male national team coaches.*

	Women (n=27) n (%)	Men (n=170) n (%)	Total (n=197) n (%)
<i>Professionalization as coach</i>			
Coaching is leisure/part-time job	11 (41)	77 (45)	88 (45)
Coaching is main occupation	16 (59)	93 (55)	109 (55)
<i>How recruited to coach position</i>			
Applied for the job	1 (4)	11 (6)	12 (6)
Asked to take the job	25 (96)	153 (90)	178 (91)
Other	0 (0)	6 (3)	6 (3)
<i>Additional coach position</i>			
No (Only national team coach)	13 (48)	101 (59)	114 (58)
Yes (Coaching position(s) in addition)	14 (52)	69 (41)	83 (42)
<i>Coaching position</i>			
Assistant coach	9 (33)	49 (29)	58 (30)
Head coach	18 (67)	120 (71)	138 (70)
<i>Gender of athletes coached</i>			
Female athlete(s) only	11 (41)	25 (15)	36 (18)
Male athlete(s) only	2 (7)	66 (39)	68 (35)
Female and male athlete(s)	14 (52)	79 (46)	93 (47)
<i>Sport coached</i>			
Team sport	12 (44)	57 (33)	69 (35)
Individual sport	15 (56)	113 (67)	128 (65)

## Discussion and Conclusion

As shown in other studies, female national team coaches are rare, which is also the fact in Norway, only 14%. This means that female national team coaches are underrepresented both with respect to the number of female national teams and the number of female elite-level athletes. But the results also revealed that those women and men who are recruited to elite-level of coaching appear to be very similar in relation to their social backgrounds. There were no significant gender differences with respect to age; education; marital status and children; experience as an athlete; coaching education; professionalization as a coach; how they were recruited to the national team coaching position; their coaching position (head coach vs. assistant coach); and which sport they coached (individual sport vs. team sport). In contrast to the majority of earlier studies of elite-level female coaches, gender differences in our study were only found for the number of years of coaching and the gender of the athletes they coached at the time of the data gathering. Another difference from

previous studies, which were primarily qualitative research, is that the present quantitative study is based on a sample of national team coaches from all sports in Norway.

### *Similar, but not equal*

The fact that the men had had a longer coaching career than the women can be explained by the higher number of men in the oldest age group. Furthermore, it is relevant to ask whether female coaches leave the profession earlier than men. Previous studies concerning female coaches have reported that the gender hierarchy in sport and experiences of sex discrimination have been major influences in their decision to withdraw (e.g. Inglis, Danylchuk, & Pastore, 2000; Kamphoff, 2010).

Unsurprisingly, more female than male coaches are coaching women and more males than females are coaching men. Relatively more men are coaching women only, compared to women coaching men only. This demonstrates the fact that both sport and coaching, in particular at the elite-level, are heavily male dominated. It is perhaps more surprising that those female and male coaches are so alike. Concerning marital status for example, some studies from North America have found that female coaches in general are more often single than male coaches which is explained by the burden family life puts on the female coaches (Hart, Hasbrook, & Mathes 1986; Reade, Rodgers & Norman, 2009; Thorngren, 1990). Similarly, female coaches with family obligations have reported that the work-family conflict in coaching is dominant (Breuning & Dixon, 2007; Dixon & Breuning, 2007; Greenhill, Auld, Cuskelly, & Hooper, 2009; Leberman & LaVoi, 2011). Our findings that many female coaches were married and had children may be unexpected, albeit similar to the Swedish study (Riksidrottsförbundet, 2006). This can be related to the equality between women and men in the Nordic countries. Norway and Sweden are ranked as number three and four respectively on the Global Gender Gap report from the World Economic Forum (2014). Thus, to combine career and family may be more acceptable in Norway and Sweden than in other countries.

A Norwegian study among women leaders ( $n=109$ ) in the private and public sector showed that in this group more were married/lived with a partner and had more children compared to the average Norwegian woman (Amble & Gjerberg, 2009). However, similar to the women in our study, women in leadership positions is a small and select group and

there seem to be some specific conditions connected to their private life that make it feasible. The study of Amble and Gjerberg (2009) indicates that the partners were of major importance; they had an equal position in their relationships and the vast majority (98%) specified support and motivation from their partners as crucial for their career.

### *The gendering of the elite-level coaching role*

At the elite-level it is important to recruit “the best” coaches – but who defines who is the best and how are they recruited? There is no reason to believe that talent for coaching is not equally distributed among the sexes and studies have shown that the gender of the coach is not a factor in the success of the athletes or teams (Aicher & Sagas, 2010a; Dawley, Hoffman, & Smith, 2004; Whisenant, Martin, & DeWaele, 2012). We therefore have to look for other explanations for the low number of elite-level female coaches. One important factor may be the lack of female role models. LaVoi and Dutove (2012, p.18) summarize this point as follows:

A dearth of female role models in visible positions can lead to many unfavorable outcomes for girls and women, including devaluation of abilities and self-perceptions (Lockwood, 2006), failure to realize sport career aspirations and potential, and inability to challenge or resist negative stereotypes regarding gender and leadership.

The significance of female role models for the recruitment of female coaches is frequently emphasized in the literature (e.g. Greenhill et al., 2009; Robertson, 2010). For example, female athletes coached by women have reported becoming a coach as more attractive for them than for women coached by men (Everhart & Chelladurai, 1998; Fasting, Sand & Knorre, 2013; Moran-Miller & Flores, 2011; Lirgg, DiBrezza, & Smith, 1994) and female mentorship is experienced more positively than male mentorships, especially with respect to the psychosocial domain (Avery, Tonidandel, & Phillips, 2008; Narcotta, Petersen, & Johnson, 2009).

Another common explanation for female underrepresentation in higher positions is the existence of a glass ceiling. Is there a glass ceiling that keeps women who want to become national team coaches back? And if so, of what does it consist? What is needed to break it? Or can the explanation be found in the women themselves, i.e. individually oriented instead of structurally oriented explanations (Alvesson & Billing, 1997).

Studies focusing on the barriers that women encounter with respect to leadership positions can help us explain this result. There are three structural barriers that may be particularly relevant in relation to an elite-level coaching job: sex-typing, stereotyping and homologous reproduction. A sex-typed job means that tasks and skills are associated with certain occupations, and defined in such a way that it seems better to fit either women or men (Cockburn, 1988). Coaching can be regarded as a task requiring certain personality characteristics and skills that traditionally have been defined as masculine. This is reflected in that athletes, especially the males, often seem to prefer male coaches above female, regardless of formal qualifications (Aicher & Sagas, 2010b; Frey, Czech, Kent, & Johnson, 2006; Leung, 2002; Magnussen & Rhea, 2009). Stereotyping, on the other hand, refers to a process where the expectations of a person with specific characteristics, such as biological sex, become so strong that they dominate the perception of what the person is doing (Valian, 1999). This leads to assigning a person an identity based on prejudices, and a high level coaching position can be said to have a masculine connotation. Accordingly, studies have shown that coaching is strongly associated with masculine traits, whereas women are perceived to be unsuitable as coaches due to stereotypical feminine characteristics (Aicher & Sagas, 2010b; Fielding-Lloyd & Mean, 2011; Menaker & Walker, 2013; Schlesinger & Weigelt-Schlesinger, 2012; Shaw & Hoerber, 2003). When women take on coaching positions it may be regarded as gender bending and challenging the coaching role as being exclusively male and masculine.

The third structural barrier, homologous reproduction, is a process by which a group reproduces itself by hiring and promoting others who are similar to themselves (Kanter, 1977). Homologous reproduction is well-known in sport, i.e. males are hiring male coaches (Kilty, 2006; Reade et al., 2009; Regan & Cunningham, 2012). But a few studies have shown that women do the same, i.e. Sagas, Cunningham and Teed (2006) found that female head coaches had a tendency to hire female assistant coaches.

In the present study, almost all (91%) of both female and male coaches had been asked to take the job as a national team coach. This confirms that homologous reproduction exists and since men dominate the powerful positions in Norwegian sports and thus will recruit men like themselves. The crucial point here is that it is primarily male leaders who employ national team coaches. A solution to this problem might be a public announcement open for everyone to apply. However, a Norwe-

gian study from the public sector has shown that women less often than men apply for leadership positions (Storvik, 2006), which may be related to internal barriers such as a lack of self-efficacy, meaning that the woman doesn't think she is competent or qualified for the position. Accordingly, the reasons for women's underrepresentation among national team coaches appear multifaceted. This is also shown in a review article by LaVoi and Dutove (2012), who use Bronfenbrenner's ecological systems theory and analyze the complex and multidimensional barriers that affect, impede or prevent women from seeking or remaining in coaching positions. The authors organized the barriers according to four levels: the individual, the interpersonal, the organizational, and the socio-cultural. They focus on the fact that over the last few years most efforts have been made to increase the number of female coaches by focusing on improving knowledge skills and confidence (individual level); developing a support system (interpersonal); and by creating an "old girls' network" (interpersonal and organizational levels). Individual-centered strategies are however limited. Barriers at all levels are related to the gender order in society at large, and likely a result of the global dominance of males over females (Connell & Messerschmidt, 2005).

Lack of self-confidence is a pertinent example; it is primarily a result of socialization and learning. Hence, it is crucial to change the gendered nature and the inhospitable climate of sport. Initiatives to increase the number of female coaches should therefore address the socio-cultural level as well as individual, interpersonal, and organizational levels (LaVoi & Devote, 2012). In addition, one should address the way the elite-level coaching role operates (Fasting et al., 2008). The demands and role expectations (amount of time, travel, etc.) may be a challenge for everyone, especially for coaches in a family situation. The work-family role conflict among female coaches is well documented (e.g. Dixon & Breuning, 2007; Leberman & LaVoi, 2011). However, a recent review article by Graham and Dixon (2014) addresses the need to also include men in this matter. Male coaches have reported similar levels to women in work-family conflict (Dixon & Sagas, 2007; Schenewark & Dixon, 2012), but little is known about how they experience and handle it. Correspondingly, during the last decade there have been examples of successful male national team coaches in Norway who have withdrawn due to considerations to the family. Hence, a change in role expectations combined with an open recruitment process, may lead to an increase of potential

candidates in order to select “the best” coaches – from a larger and more diverse pool, containing not only more women, but also more men.

## Concluding comments

The results presented here with respect to the gender distribution among elite-level coaches confirm studies from other countries (Commonwealth of Australia, 2006; Acosta & Carpenter, 2014; Pfister, 2013; Storm & Tofft-Jørgensen, 2013; Swiss Federal Institute of Sports Magglingen, 2011). However, our study does not reveal differences between female and male coaches with respect to demographics which are shown in some other studies (Riksidrottsförbundet, 2006; Kajtna, 2008).

We have little knowledge about the minority of women who are elite-level coaches, and how they manage work and family life. A common belief is that to be a female elite-level coach one needs to be single and childless (Reade, Rodgers & Norman, 2009). Our results show that this does not seem to be the case, since we found no differences between women and men with respect to their family situation. Qualitative interviews with both female and male elite-coaches with family responsibilities might however provide a deeper understanding of how family life and work are negotiated. Moreover, we need to know about structural and organizational conditions that might prevent or facilitate women’s entrance to elite-level coaching.

## References

- Acosta, R., & Carpenter, L. J. (2014). *Women in intercollegiate sport: A longitudinal, national study: Thirty seven year update 1977-2014*. Retrieved 11.04.17 from <http://acostacarpenter.org/2014%20Status%20of%20Women%20in%20Intercollegiate%20Sport%20-37%20Year%20Update%20-%201977-2014%20.pdf>.
- Aicher, T., & Sagas, M. (2010a). Change in coach’s gender and the effect on team performance. *Applied Research in Coaching and Athletics Annual*, 25, 42-61.
- Aicher, T.J. & Sagas, M. (2010b). Are head coaches in intercollegiate athletics perceived as masculine? An evaluation of gender stereotypes and the effect of sexism on intercollegiate coaches. *Gender Issues*, 27(3-4), 165-174. doi: 10.1007/s12147-010-9092-x.
- Alvesson, M., & Billing, Y. D. (2009). *Understanding gender and organizations*. London: Sage.

- Amble, N., & Gjerberg, E. (2009). *Livspuslespillet. Partssammensatt prosjekt: Undersøkelse vedrørende balanse arbeid-familie, blant norske kvinner som arbeider som ledere* [The life puzzle. Project: Investigation with respect to work-family balance among Norwegian women working as leaders]. Oslo: WRI Work Research Institute.
- Archer, T. M. (2008). Response rates to expect from web-based surveys and what to do about it. *Journal of Extension*, 46. Retrieved 11.04.17 from: <http://www.joe.org/joe/2008june/rb3.php>.
- Avery, D. R., Tonidandel, S., & Phillips, M. G. (2008). Similarity on sports sidelines: How mentor-protégé sex similarity affects mentoring. *Sex Roles*, 58(1-2), 72-80. doi: 10.1007/s11199-007-9321-2.
- Bruening, J. E. & Dixon, M. A. (2007). Work-family conflict in coaching II: Managing role conflict. *Journal of Sport Management*, 21, 471-496.
- Canadian Association for the Advancement of Women and Sport and Physical Activity (2014). *Canadian women's contributions to the winter Olympics: Addressing homophobia in sport*. Retrieved 11.04.17 from: <http://www.caaws.ca/e/wp-content/uploads/2014/02/CAAWS-Womens-Contribution-to-Winter-Olympics.pdf>.
- Cockburn, C. (1988). *Machinery of dominance*. Boston: Northeastern University Press.
- Cockburn, R., Gray, K., & Thompson, R. (2007). *Gender balance in New Zealand Olympic Sport*. Retrieved 11.04.17 from: [www.srknowledge.org.nz/wp-content/uploads/2012/10/women-full1.pdf](http://www.srknowledge.org.nz/wp-content/uploads/2012/10/women-full1.pdf).
- Commonwealth of Australia. (2006). *About time! Women in sport and recreation in Australia*. Canberra: Commonwealth of Australia.
- Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender & Society*, 19, 829-859. doi: 10.1177/0891243205278639.
- Dawley, D., Hoffman, J. J., & Smith, A. R. (2004) Leader succession: Does gender matter? *Leadership & Organization Development Journal*, 25, 678-690. doi: 10.1108/01437730410565004.
- Diegel, H., Thiel, A., Schreiner, R., & Waigel, S. (2010). *Berufsfeld trainer im Spitzensport* [Professional coaches in elite-sport]. Schorndorf: Hofmann.
- Dixon, M. A. & Bruening, J. E. (2007). Work-family conflict in coaching I: A top-down perspective. *Journal of Sport Management*, 21, 377-406.
- Dixon, M.A., & Sagas, M. (2007). The relationship between organizational support, work-family conflict, and the job life satisfaction of university coaches. *Research Quarterly for Exercise and Sport*, 78, 236-247. doi: 10.1080/02701367.2007.10599421.
- Everhart, C. B., & Chelladurai, P. (1998). Gender differences in preferences for coaching as an occupation: The role of self-efficacy, valence, and perceived barriers. *Research Quarterly for Exercise and Sport*, 69, 188-200. doi: 10.1080/02701367.1998.10607683.
- Fasting, K., Sand, T. S., Sisjord, M. K., Thoresen, T., & Broch, T. B. (2008). *Likestilling og mangfold i norsk idrett: Bedre med flere på banen!* [Equality and diversity in Norwegian organized sport: Better with more on the field!] Oslo: Likestillings- og Diskrimineringsombudet.

- Fasting, K., & Sand, T. S. (2009). *Kjønn i endring: En tilstandsrapport om norsk idrett* [Changing gender: A state of the art of Norwegian organized sport]. Oslo: Akilles.
- Fasting, K., Sand, T. S., & Knorre, N. (2013). European female sport students as future coaches? *European Journal for Sport and Society*, 10(4), 307-323.
- Fielding-Lloyd, B. & Mean, L. (2011). "I don't think I can catch it": Women, confidence and responsibility in football coach education. *Soccer and Society*, 12, 345-364. doi: 10.1080/14660970.2011.568102.
- Frey, M., Czech, D. R., Kent, R. G., & Johnson, M. (2006). An exploration of female athletes' experiences and perceptions of male and female coaches. *The Sport Journal*, 9. Retrieved from: <http://thesportjournal.org/article/an-exploration-of-female-athletes-experiences-and-perceptions-of-male-and-female-coaches/>
- Fricker, R. D., & Schonlau, M. (2002). Advantages and disadvantages of internet research surveys: Evidence from the literature. *Field Methods*, 14, 347-367. doi: 10.1177/152582202237725.
- Graham, J. A., & Dixon, M. A. (2014). Coaching fathers in conflict: A review of the tensions surrounding the work-family interface. *Journal of Sport Management*, 28, 447-456.
- Greenhill, J., Auld, C., Cuskelly, G. & Hooper, S. (2009). The impact of organizational factors on career pathways for female coaches. *Sport Management Review*, 12, 229-240. doi: 10.1016/j.smr.2009.03.002.
- Hart, B. A., Hasbrook, C. A., & Mathes, S. A. (1986). An examination of the reduction in the number of female interscholastic coaches. *Research Quarterly for Exercise & Sport*, 57, 68-77. doi: 10.1080/02701367.1986.10605390.
- Inglis, S., Danylchuk, K. E. & Pastore, D. L. (2000). Multiple realities of women's work experiences in coaching and athletic management. *Women in Sport and Physical Activity Journal*, 9(2), 1-26.
- Kamphoff, C. H. (2010). Bargaining with patriarchy: Former female coaches' experiences and their decision to leave collegiate coaching. *Research Quarterly for Exercise and Sport*, 81, 360-372. doi: 10.1080/02701367.2010.10599684.
- Kajtna, T. (2008). Demographic characteristics of Slovene female coaches. *Kinesiological Slovenica*, 14, 75-83.
- Kanter, R. M. (1977). *Men and women of the corporation*. New York: Basic.
- Kidd, B. (2013). Where are the female coaches? *Canadian Journal for Women in Coaching Online*, 13. Retrieved 11.04.17 from: [http://www.coach.ca/files/CJWC\\_FEB2013\\_EN.pdf](http://www.coach.ca/files/CJWC_FEB2013_EN.pdf)
- Kilty, K. (2006). Women in coaching. *Sport Psychologist*, 20(2), 222-234.
- LaVoi, N. M., & Dutove, J. K. (2012). Barriers and support for female coaches: An ecological model. *Sports Coaching Review*, 1, 17-37. doi: 10.1080/21640629.2012.695891.
- Leberman, S. I., & LaVoi, N. M. (2011). Juggling balls and roles: Working mother-coaches in youth sport: Beyond the dualistic worker-mother identity. *Journal of Sport Management*, 25, 474-488.
- Leung, M.L. (2002). Attitudes of elite athletes towards female coaches in Hong Kong. *Women in Sport & Physical Activity Journal*, 11(2), 101-114.



- Lirgg, C. D., DiBrezzo, R., & Smith, A. N. (1994). Influence of gender of coach on perceptions of basketball and coaching self-efficacy and aspirations of high school female basketball players. *Women in Sport and Physical Activity Journal*, 3(1), 1-15.
- Livingston, E. H., & Wislar, J. S. (2012). Minimum response rates for survey research. *Archives of Surgery*, 147. doi: 10.1001/archsurg.2011.2169.
- Lockwood, P. (2006). "Someone like me can be successful": Do college students need same gender role models? *Psychology of Women Quarterly*, 30, 36-46.
- Manfreda, K. L., Bosnjak, M., Berzelak, J., Haas, I., & Vehovar, V. (2008). Web surveys versus other survey modes: A meta-analysis comparing response rates. *International Journal of Market Research*, 50, 79-104.
- Mehta, C. R., & Patel, N. R. (2012). *IBM SPSS exact tests*. Retrieved 11.04.17 from: [http://www.sussex.ac.uk/its/pdfs/SPSS\\_Exact\\_Tests\\_21.pdf](http://www.sussex.ac.uk/its/pdfs/SPSS_Exact_Tests_21.pdf)
- Menaker, B., Walker, N. A. (2013). "I don't feel that women are capable of coaching a men's team": Impact of hegemonic masculinity on collegiate coaching perceptions. *Journal of Contemporary Athletics*, 7, 37-49.
- Moran-Miller, K., & Flores, L. Y. (2011). Where are the women in women's sports? Predictors of female athletes' interest in a coaching career. *Research Quarterly for Exercise and Sport*, 82, 109-117. doi: 10.1080/02701367.2011.10599727.
- Narcotta, E. M., Petersen, J. C., & Johnson, S. R. (2009). Mentor functions in NCAA women's soccer coaching dyads. *Team Performance Management*, 15(3-4), 100-116. doi: 10.1108/13527590910964892.
- Norwegian Olympic and Paralympic Committee and Confederation of Sports. (2014). *Olympic team Norway: Team and media guide Sochi 2014*. Retrieved 11.04.17 from: [http://www.olympiatoppen.no/om\\_olympiatoppen/aktuelt/media41483.media](http://www.olympiatoppen.no/om_olympiatoppen/aktuelt/media41483.media)
- Pfister, G. (2010). Women in sport: Gender relations and future perspectives. *Sport in Society*, 13, 234-248. doi: 10.1080/17430430903522954.
- Pfister, G. (2013). Outsider: Female coaches intruding upon a male domain? In G. Pfister & M. K. Sisjord (Eds.), *Gender and Sport: Changes and Challenges* (pp. 71-102). Münster: Waxmann.
- Reade, I., Rodgers, W., & Norman, L. (2009). The under-representation of women in coaching: A comparison of male and female Canadian coaches at low and high levels of coaching. *International Journal of Sports Science & Coaching*, 4, 505-520. doi: 10.1260/174795409790291439.
- Regan, M. R., & Cunningham, G. B. (2012). Analysis of homologous reproduction in community college athletics. *Journal for the Study of Sports and Athletes in Education*, 6, 161-172. doi: 10.1179/ssa.2012.6.2.161.
- Riksidrottsförbundet. (2006). *Vägen till elittränaskap? [The road to elite-coaching?]* Stockholm: Riksidrottsförbundet.
- Robertson, S. (ed.) (2010). *Taking the lead: Strategies and solutions from female coaches*. Edmonton: University of Alberta Press.
- Sagas, M., Cunningham, G.B., & Teed, K. (2006). An examination of homologous reproduction in the representation of assistant coaches of women's teams. *Sex Roles*, 55, 503-510. doi: 10.1007/s11199-006-9104-1.

- Schenewark, J., & Dixon, M. (2012). A dual model of workfamily conflict and enrichment in collegiate coaches. *Journal of Issues in Intercollegiate Athletics*, 5, 15-39
- Schlesinger, T., & Weigelt-Schlesinger, Y. (2012). "Poor thing" or "Wow, she knows how to do it": Gender stereotypes as barriers to women's qualification in the education of soccer coaches. *Soccer & Society*, 13, 56-72. doi: 10.1080/14660970.2012.627167.
- Sellers, C. (2007). 20 years later: What has changed in America's elite coaches? *Olympic Coach*, 20, 4-8.
- Shaw, S., & Hoerber, L. (2003). A strong man is direct and a direct woman is a bitch: Gender Discourses and their influence on employment roles in sports organizations. *Journal of Sport Management*, 17, 347-375.
- Shih, T. H., & Fan, X. (2008). Comparing response rates from web and mail surveys: A meta-analysis. *Field Methods*, 20, 249-271. doi: 10.1177/1525822X08317085.
- SPLISS-CH 2011. Retrieved 11.04.17 from: [https://www.researchgate.net/profile/Anne\\_Renaud/publication/278393704\\_Elite\\_sport\\_in\\_Switzerland\\_Snapshot\\_SPLISS-CH\\_2011/links/5580128208aec87640df22fe.pdf](https://www.researchgate.net/profile/Anne_Renaud/publication/278393704_Elite_sport_in_Switzerland_Snapshot_SPLISS-CH_2011/links/5580128208aec87640df22fe.pdf).
- Sports Coach UK. (2011). Coach tracking study: A four-year study of coaching in the UK. Retrieved 11.04.17 from: [http://issuu.com/scukres/docs/coach\\_tracking\\_study\\_final\\_report](http://issuu.com/scukres/docs/coach_tracking_study_final_report)
- Statistics Norway. (2015). *Befolkningens utdanningsnivå, 1.oktober 2014* [The population's educational level, October 1 2014]. Retrieved 11.04.17 from: <https://www.ssb.no/utniv/>
- Storm, R. K., & Toft-Jørgensen, L. (2013). *Elitesportsmiljøet i Danmark 2012. Analyse af det danske eliteidrætsmiljø baseret på undersøgelsen "Sport Policy Factors Leading to Sporting Success" (SPLISS)* [The elite-sport environment in Denmark 2012: Analysis of the Danish elite-sport environment based on the study "Sport Policy Factors Leading to Sporting Success" (SPLISS)]. Retrieved 11.04.17 from: <http://www.idan.dk/vidensbank/downloads/elitesportsmiljoet-i-danmark-2012/e6428881-cad5-49ce-bca7-a1b3008dc3bb>
- Storvik, A. E. (2006). Glasstaket: Metafor med utilsigtet virkning? Kjønn, ledelse og rekruttering i staten [The Glass Ceiling: A metaphor with unintended consequences? Gender, management and recruitment in the public sector]. *Sosiologisk Tidsskrift*, 14, 219-253.
- Swiss Federal Institute of Sports Magglingen. (2011). *Elite sport in Switzerland: Snapshot*
- Team USA. (2014). *2014 Olympic winter games: Team USA Media Guide*. Retrieved 11.04.17 from: <http://www.teamusa.org/Media/Games/Sochi-2014/Media-Guide>
- Thorngren, C. M. (1990). A time to reach out: Keeping the female coach in coaching. *Journal of Physical Education, Recreation and Dance*, 61(3), 57-60. doi: 10.1080/07303084.1990.10606478.
- Valian, V. (1999). *Why so slow? The advancement of women*. Cambridge: The MIT Press.

- Whisenant, W. A., Martin, T., & DeWaele, C. (2012). Gender-stereotypic model in athletics: Sex of the coach and team performance. *Applied Research in Coaching & Athletic Annual*, 27, 33-52.
- World Economic Forum. (2014). *The global gender gap report 2014*. Retrieved 11.04.17 from: [http://www3.weforum.org/docs/GGGR14/GGGR\\_CompleteReport\\_2014.pdf](http://www3.weforum.org/docs/GGGR14/GGGR_CompleteReport_2014.pdf)

