

Attitudes Toward and Preferences for Male and Female Personal Trainers

JAMES P FISHER‡, CATHERINE PLATTS*, and MARIE STOPFORTH‡

Southampton Solent University, Southampton, Hampshire, UK

*Denotes undergraduate student author, ‡Denotes professional author

ABSTRACT

International Journal of Exercise Science 6(4) : 256-268, 2013. Previous research has considered the perceptions of athletes towards gender of coach and strength and conditioning coach. However, to date there appears little research considering the perceptions of clients towards gender of personal trainer. The purpose of this study was to investigate male and females perceptions of same- or opposite-gender personal trainers. Four hundred and two (male = 201, female = 201) undergraduate University student participants completed an adapted version of the Attitudes of Athletes toward Male versus Female Coaches Questionnaire (AAMFC-Q; 23). A 2 × 2 multivariate analysis of variance (MANOVA) revealed that neither males nor females showed any preference for gender of hypothetical personal trainer ($p > 0.05$) although both males and females reported that a personal trainer of the opposite gender might make it harder to concentrate ($p < 0.05$). Previous research has reported a preference for male coaches/strength and conditioning coaches from both male and female athletes. However, this study suggests that there is no such gender bias towards personal trainers in this population.

KEY WORDS: Gender, strength, aerobic, health, teaching

INTRODUCTION

The physiological and psychological health benefits of exercise are well documented (2, 4, 16, 17, 31, 32), however, evidence suggests that adherence to exercise programmes are notoriously unpredictable at best (1, 6, 14, 34). Other research suggests that both adherence and health parameters (e.g. strength, weight loss, etc.) are improved when exercise is supervised by a personal trainer (18, 25, 39, 40). Mazzetti et al. (26) reported significantly favourable training affects in a supervised resistance training group compared to a non-supervised group. Coutts et al. (5) reported similar results in young rugby players, where a supervised group showed significantly

greater strength gains than an unsupervised group. Indeed, Gentil and Bottaro (13) reported significantly greater increases in both lower and upper body strength in untrained persons when comparing a high-supervision group with a 1:5 supervision ratio to a low-supervision group (1:25). Whilst many of these improvements in performance might be a result of the supervised group choosing to use an increased training load, or training at a higher intensity, Mazzetti, et al. (26) suggested that adherence to, and intensity of exercise is also affected by the relationship and perceptions of the trainer, including their gender.

Several studies have considered the effect of gender of coach in sporting

environments such as, athletics (10), volleyball and basketball (15) and strength and conditioning (23). Parkhouse and Williams (36) and Weinberg et al. (41) reported that male athletes' attitudes towards female coaches were of a negative orientation. In addition female athletes preferred the possibility of having an unsuccessful male coach to that of a successful female coach (43). Qualitative research has reported that 8 out of 12 collegiate female athletes (basketball, softball, golf, cross-country, track and field and soccer) also preferred a male coach (11). However, Medwechuk and Crossman (28) reported that swimmers had a preference for same-gender coaches. More recently, research has suggested that male collegiate athletes prefer male strength and conditioning coaches, whereas female collegiate athletes do not have a gender preference for strength and conditioning coaches (23).

The limited research considering the views and experiences of females towards personal trainers are qualitative in nature using small sample sizes (22, 29). Madeson et al. (22) reported that clients state the relationship with their personal trainer is very important, mentioning the detail and level of intimacy of their conversations. In addition they discussed trainer skills and characteristics, specifically mentioning gender. Female clients believed they would not have the same 'connection' with a male personal trainer since a male personal trainer would not have the same understanding of female's bodies. Melton et al. (29, 30) supported that gender plays a major role in the selection of a personal trainer, as well as reporting comments around a 'socially friendly environment' including skills such as empathy, and

communication. As a result of these factors, and in conclusion, the authors stated that 4 out of 5 participants showed a preference for a female personal trainer (29). In addition personal trainers also seem to believe that their gender is influential on their selection by potential clients (30). Many of these themes are reflected by research with athletic coaches; that there were stronger relationships between female athletes and female coaches, and that they might be friends and could discuss things outside of sport (11). Participants in each of these studies commented that the presence of their female personal trainer/coach helped motivate and encourage performance (11, 22, 29).

Interestingly, until now, there has been very little research concerning clients' attitudes toward personal trainers (29), and no research directly considering the effect of gender of personal trainer, or potential clients' perceptions regarding adherence, performance, communication, etc. It seems that a growing and competitive health and fitness industry might benefit by maximizing the desirability of membership and attendance to their facilities and staff. Based on the physical and psychological health benefits associated with exercise (2, 4, 16, 17, 31, 32), along with the potentially superior results when this exercise is supervised (5, 13, 26), the present study aimed to examine the perceptions of male and female clients towards male and female personal trainers.

METHODS

Participants

Participants were 402 (male=201, female=201) Undergraduate University students aged between 18 and 28 years

($m=21.14, \pm 2.45$). A power analysis of previous research (23) was conducted to determine participant numbers (n) using a treatment effect size (ES), calculated using Cohen's d (3), of 0.46. This was the lowest ES calculated from the series of questions from the AAMFC-Q (23) and thus accommodated a greater range of ES for the present study. Participant numbers, calculated using equations from Whitley and Ball (42), showed that each group required 75 persons to meet the required power of 0.8 at an alpha value of $p \leq 0.05$. Participants were selected via random sampling, since selecting specific participants who already attended a gym might bias results due to previous experiences with a personal trainer. Approval was granted by the relevant University ethics committee board, and each participant signed an informed consent document prior to completing the questionnaire.

Protocol

A quantitative research design was used in which male and female participants completed a modified version of the Athletes Attitudes towards Male and Female Coaches Questionnaire (AAMFC-Q). The AAMFC-Q assesses the feelings of female and male athletes towards the gender of a coach (41). Test-retest reliability has been reported as 0.80 and 0.77 for male and female versions respectively (23). The questionnaire uses either a female or male version, where the narrative preceding the questions describes either a male or female trainer. It consists of 11 single items scored on a 1-10 Likert scale with response options ranging from 1; not at all to 10; very much. Magnusen and Rhea (23) further adapted the AAMFC-Q, by asking participants about attitudes toward strength and

conditioning coaches, citing a reliability of 0.76.

In the present study the AAMFC-Q was adapted by using the term 'personal trainer' instead of 'coach'. In addition, the opening paragraph of the AAMFC-Q was also modified to give the scenario of either a male, or female, personal trainer and their qualifications instead of that of a coach: "Sophie (Daniel) has completed her (his) undergraduate degree in Applied Sports Science. She (He) played and competed in her (his) sport at a regional level. Sophie (Daniel) is a certified personal trainer and has just got a job in your gym. Please answer the questions below concerning your feelings about Sophie (Daniel) being your new personal trainer." Whilst the AAMFC-Q (23), as a scale, went from 1; *Not at all*, to 10; *Very much*, with an additional 11th value, the present scale has been amended to score from 1-10 only. The integrity of the questionnaire remained, with the following amendments to specific questions (Q): Q2; "His (her) presence where we train might make it harder to concentrate" now reads "His (her) presence might make me find it harder to concentrate". Q3; "He (she) could make me want to train with greater intensity and efficiency" now reads "He (she) could make me want to push myself harder with greater intensity", Q4 "He (she) might be head coach in 20 years" now reads "I could take his (her) criticism if he (she) corrects me during a particular exercise", Q5; "I could take it when he (she) corrects me when I perform and exercise incorrectly" now reads "I would have the confidence that he (she) is a good personal trainer", Q6; "I would have confidence that he (she) is a good strength coach" now reads "I could take orders and instructions easily from

him (her)", Q7; "I could take orders and instructions from him (her) easily" now reads "I could discuss progress with him (her) easily before/during and after training", Q8; "I could not take punishment from him (her)" now reads "He (she) would help me with my adherence to the exercise programme", Q9; "I could discuss things with him (her) easily before/during/after strength training" now reads "I would have the confidence in him (her) training me for a strength workout", Q10; "I might expect him/her to motivate and encourage me in my training easily" now reads "I would have confidence in him (her) training me for an aerobic workout", and Q11; "I might feel angry (mad) if he (she) yelled at me while I was training" now reads "I would prefer it if my personal trainer were a woman (man). The AAMFC-Q (23) also had a 12th question asking "I would prefer it if my new strength coach were a man (woman)", however the updated version in the present only utilised the 11 questions detailed. The changes were implemented since they are more specific to a personal training scenario and to this specific area of research (it is important that a client be able to listen to coaching points, e.g. have their form corrected when exercising, etc.). A complete copy of the modified AAMFC questionnaire now titled 'Attitudes of Clients towards Male versus Female Personal Trainers Questionnaire (ACMFPT-Q) is shown in Table 1. For the benefit of the reader the second gender has been added in parentheses, however, on the distributed questionnaire only one gender (e.g. Daniel or Sophie) was mentioned.

University students were asked to select and complete a questionnaire upon entering one of their normal academic sessions. Students attending these sessions

were studying fashion design, business, accountancy, law, maritime studies, computing, film & television, politics, or popular music production. The array of classes was selected to best represent a broad spectrum of potential career paths. Each participant randomly selected one of two questionnaires (a male or female participant could receive either a male or female personal trainer version of the questionnaire) with the instruction that they were being asked about their perceptions of a personal trainer. They were not advised that any comparative study was being performed or that gender perceptions were being examined.

Statistical Analysis

The questionnaires were first split into two groups based on the gender of the participant. These two groups were then further split based on the gender of the hypothetical personal trainer that was evaluated by each participant. This yielded four groups based on the gender of the participant and the gender of the hypothetical personal trainer being evaluated; male participant and male personal trainer (MM; $n=100$), male participant and female personal trainer (MF; $n=101$), female participant and male personal trainer (FM; $n=101$) and female participant and female personal trainer (FF; $n=100$). This method ensured that participants did not compare both gender scenarios which might have allowed a bias to the results.

Using the statistics package for the social sciences (SPSS v.17), a 2 (gender of participant) x 2 (gender of the hypothetical personal trainer) multivariate analysis of variance (MANOVA) was used to compare the independent variables (gender of

participant and gender of hypothetical personal trainer) with the 11 items on the ACMFPT-Q. An alpha value of $p < 0.05$ was used to identify statistical significance.

RESULTS

As a result of the MANOVA, significant mean differences were found for gender of participant; ($F_{(11, 388)} = 8.61, p < 0.05$), and for gender of hypothetical personal trainer; ($F_{(11, 388)} = 10.81, p < 0.05$). Female participants reported significantly higher values for both male and female personal trainers when compared to male participants (with the exception of question 2 which was inversely scored and thus significantly lower values reported), e.g. the female participants scored both genders of hypothetical trainer higher than males when asked about; liking (Q1), greater intensity (Q3), taking criticism (Q4), confidence (Q5), orders and instructions (Q6), discussing progress (Q7), adherence (Q8), confidence - strength (Q9), confidence - aerobic (Q10). See table 2 for mean values (SD) and effect sizes (ES) calculated Cohen's d (3).

When examining the gender of trainer significant differences identified, ($F_{(11, 388)} = 10.81, p < 0.05$) that both male and female participants scored a hypothetical female personal trainer higher when compared to a hypothetical male trainer in; confidence that she is a good personal trainer (Q5), ability to take orders and instructions easily from her (Q6), that they could discuss things easily before/during and after training with her (Q7), and that they would have confidence in her training them through an aerobic workout (Q10). See table 3 for mean values (SD) and effect sizes (ES) calculated Cohen's d (3).

Table 2. Mean (SD) Attitudes of Clients towards Male and Female Personal Trainers Questionnaire (ACMFPT-Q) scores for male and female clients.

Variable	Male Clients Mean (SD)	Female Clients Mean (SD)	Effect Size
Q1; liking	5.80 (2.22)*	6.88 (1.63)*	0.56
Q2; Presence & Concentration	3.96 (2.43)*	3.03 (2.00)*	0.42
Q3; Greater intensity	6.01 (2.07)*	7.03 (1.74)*	0.54
Q4; Take criticism	6.60 (2.36)*	7.61 (1.58)*	0.51
Q5; Confidence	6.52 (2.10)*	7.30 (1.52)*	0.43
Q6; Orders & Instructions	6.48 (2.23)*	7.43 (1.65)*	0.49
Q7; Discussing Progress	7.05 (1.92)*	7.43 (1.76)*	0.21
Q8; Adherence	6.21 (2.15)*	7.23 (1.59)*	0.55
Q9; Confidence - Strength	6.05 (2.33)*	7.35 (1.59)*	0.66
Q10; Confidence - Aerobic	6.72 (2.06)*	7.30 (1.68)*	0.31
Q11; Prefer opposite gender	4.46 (2.75)	3.55 (2.48)	

* Significant differences at 0.05 level

A significant interaction effect was also found between the 2 independent variables; ($F_{(11, 388)} = 4.53, p < 0.0001$). Based on the follow up univariate ANOVAs, the only significant interaction effect occurred at question 2 ($p < 0.05$), where both gender of participant reported that the opposite gender of hypothetical personal trainer might make it harder to concentrate (Q2). Using Cohen's d (3) an effect size of 1.05 was calculated.

ATTITUDES TOWARD MALE AND FEMALE PERSONAL TRAINERS

Table 3. Mean (SD) Attitudes of Clients towards Male and Female Personal Trainers Questionnaire (ACMFPT-Q) scores for male and female hypothetical personal trainers.

Variable	Male Trainer Mean (SD)	Female Trainer Mean (SD)	Effect Size
Q1; liking	6.26 (1.88)	6.41 (2.15)	
Q2; Presence & Concentration	3.62 (2.27)	3.67 (2.27)	
Q3; Greater intensity	6.63 (1.92)	6.41 (2.03)	
Q4; Take criticism	6.95 (2.00)	7.23 (2.13)	
Q5; Confidence	6.69 (1.81)*	7.13 (1.90)*	0.24
Q6; Orders & Instructions	6.72(1.88)*	7.19 (2.11)*	0.24
Q7; Discussing Progress	6.77 (1.75)*	7.72 (1.83)*	0.53
Q8; Adherence	6.60 (1.82)	6.84 (2.08)	
Q9; Confidence - Strength	6.82 (1.90)	6.59 (2.28)	
Q10; Confidence - Aerobic	6.51 (1.91)*	7.51 (1.76)*	0.54
Q11; Prefer opposite gender	4.26 (2.69)	3.75 (2.61)	

* Significant differences at 0.05 level

DISCUSSION

Prior to the present study no research had examined the attitudes and preferences toward male and female personal trainers. Since having a personal trainer can increase

adherence to an exercise programme (18), which can in turn, elicit significant health benefits (25, 26, 39, 40) this seems a pertinent area to consider. Therefore the present study sought to examine potential clients' attitudes and preferences toward personal trainers. Gaining a better understanding of the attitudes towards personal trainers could, in turn, lead to defining the factors that contribute to sustained involvement and exercise preferences.

Female participants reported significantly more favourable mean values for both male and female hypothetical personal trainers when compared to male participants (Q1-10). This response is supported by previous research, in which female's adherence to exercise programmes was improved when having a personal trainer present (18). However, male participants might have scored lower values for either hypothetical personal trainer due to a lack of social motives in the gym environment (33, 38). However, the mean score for males (5.80) with regard to liking (Q1) still suggests a positive relationship (e.g. >5.0) toward hypothetical personal trainers. Mullen and Whaley (33) found that women rate social outcomes higher than males, with regards to their commitment within fitness club membership. Indeed, previous research has suggested that persons might find exercising alone less stressful than with a friend (37), and indeed, males specifically preferred to exercise alone rather than with

ATTITUDES TOWARD MALE AND FEMALE PERSONAL TRAINERS

Table 4. Mean (SD) Attitudes of Clients towards Male and Female Personal Trainers Questionnaire (ACMFPT-Q) scores for male and female clients with regard to male and female personal trainers

Variable	Male Clients		Female Clients	
	Female Hypothetical Personal Trainer	Male Hypothetical Personal Trainer	Female Hypothetical Personal Trainer	Male Hypothetical Personal trainer
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Q1; liking	5.84 (2.26)	5.76 (1.94)	6.99 (1.59)	6.76 (1.67)
Q2; Presence & Concentration	4.43 (2.34) *	3.49 (2.44) *	2.30 (1.62) *	3.76 (2.09) *
Q3; Greater intensity	5.76 (2.13)	6.26 (1.99)	7.08 (1.69)	6.99 (1.80)
Q4; Take criticism	6.62 (2.43)	6.58 (2.30)	7.90 (1.53)	7.31 (1.59)
Q5; Confidence	6.77 (2.24)	6.27 (1.91)	7.50 (1.40)	7.09 (1.60)
Q6; Orders & Instructions	6.63 (2.42)	6.32 (2.02)	7.76 (1.58)	7.11 (1.65)
Q7; Discussing Progress	7.42 (2.00)	6.70 (1.78)	8.02 (1.60)	6.84 (1.72)
Q8; Adherence	6.16 (2.40)	6.27 (1.87)	7.53 (1.41)	6.93 (1.70)
Q9; Confidence - Strength	5.80 (2.60)	6.36 (2.00)	7.43 (1.50)	7.27 (1.67)
Q10; Confidence - Aerobic	7.24 (2.05)	6.19 (1.93)	7.79 (1.34)	6.82 (1.84)
Q11; Prefer opposite gender	4.10 (2.80)	4.83 (2.65)	3.40 (2.35)	3.69 (2.61)

* Significant differences at 0.05 level

a companion (38). Previous research supports this suggesting that males spend more time exercising than females (12, 35). In addition 'social role theory' appears to be a significant factor within these results, with males generally showing greater self-confidence and self-sufficiency (7, 8). Future research into male gym members and their exercising habits should certainly be considered.

Interestingly both males and females reported a significantly higher score for hypothetical female personal trainers for confidence (Q5) and confidence in their ability to train the participant through an aerobic workout (Q10). Previous research suggests that both men and women use fitness activities as a means of controlling their physical appearance and health but the choice of exercise is, to some extent, gender-dependent (19, 24). Researchers suggest that men use weight training to build "strong, muscular bodies in the gym", while women "dominate the aerobics class to sculpt slim, lithe, 'feminine' bodies" (19, 24). These assumptions of gender-dependent choices in exercise could suggest why both men and women believe that a female personal trainer is more competent in training an aerobic workout compared to a male personal trainer. This is supported by previous research where females have suggested a preference for a female personal trainer due to understanding struggles to balance gender-role concerns (e.g. a toned body as well as a feminine figure; 29). Gender appropriate behaviour is largely shaped by socio-cultural images of the ideal masculine or feminine body (21, 24) and fuelled by media depiction of these stereotypical masculine or feminine ideal body images (20). However, this might lead to the hypothesis that male and female

participants might have had greater confidence in a male personal trainer for a strength workout, which our results did not support. Whilst the individual goals of participants might have been a factor, future research should investigate why both males and females appeared to have greater confidence in a female personal trainer (Q5).

Both males and female participants reported a significantly higher score for taking instructions from (Q6), and discussing progress (Q7) with, a female personal trainer. This might also be explained by social role theory, which contends that there are qualities and behavioural tendencies believed to be desirable for each gender as well as expectations regarding the roles men and women should occupy (7, 8). Women are stereotyped as more 'communal' with attributes such as compassion, helpfulness, kindness, sympathy, interpersonally sensitive, nurturing, and generous; and men as more 'agentic' with attributes such as aggression, forcefulness, self-confidence, and self-sufficiency (7). Research has reported that females feel strongly about a positive relationship with their personal trainer/coach, where they could discuss more intimate and private themes outside of exercise and sports (11, 22, 29). Elite female soccer players positively commented on the actual and perceived communicative characteristics of female coaches when compared to males; specifically mentioning empathy, understanding and caring attributes in female coaches (9). Female athletes have reported a more aggressive, authoritative and intimidating approach by male coaches, although many female athletes stated a preference for this style believing it

made them better (11). It might be that elite athletes are more accommodating or expecting of a generally authoritative coaching style (e.g. male), whilst persons less motivated by physical performance might prefer the idea of an approachable personal trainer who is more supportive and helpful in their exercise prescription (e.g. female).

The only significant difference in the interaction between gender of participant and gender of hypothetical personal trainer is that both males and females reported that the opposite gender personal trainer might make it harder to concentrate (Q2). Females might have reported a preference to a female personal trainer due to the social reasoning behind female exercise participation (33), and the preferred intimacy of relationship with female coaches and personal trainers (9, 11, 22, 29). Indeed males might simply have preferred a more authoritative approach (7, 8) or have had greater confidence in being trained by someone of the same gender (23). However, neither males nor females reported an objection to the described person as their personal trainer (Q1) or a preference for a personal trainer of the same gender (Q11), they simply reported that a person of the opposite gender 'might make it harder to concentrate' (Q2). It might be that a subtle question about concentration allowed true feelings to be displayed where a direct question about preference caused participants not to want to show any favouritism. Certainly, further research might investigate distraction, and attraction, as well as other variables within the personal training and fitness industry.

A significant finding of the present study was that neither males nor females reported

a preference for a specific gender of hypothetical personal trainer (Q11). These results are different from those of previous studies considering athletes and coaches/strength and conditioning coaches (10, 15, 23, 41). As mentioned, we suggest that this contrast might exist due to the difference in importance of exercise, fitness and physical conditioning between athletes and the general population. Both male and female athletes, who by their nature likely hold a higher level of importance on physical conditioning, might suppose that they can only continue to improve with, and thus show a preference for, a dominant and aggressive coach/strength coach (11, 23), whereas the general public who are not motivated to the same level of physical performance might prefer the idea of a helpful and approachable personal trainer. Indeed, the nature of these relationships; demanding, assertive and intimidating as opposed to enjoyable, social and friendly reflect male and female characteristics respectively (7, 8).

The results of this study suggest that the participants have no bias to the gender of a potential personal trainer. Future research might consider as to whether they attach more important characteristics such as approachability, attitude, experience and knowledge. Another possibility is that the participants in the study could already have had an effective male or female personal trainer that may positively influence their attitudes toward gender. A possible limitation to the study is that participants were not asked as to their gym experience, or intentions to exercise. However, it was felt that choosing persons who already attended a gym would be a form of selection bias, and questioning participants on their opinions would

prompt recall and experience to bias their answers, rather than the described scenario. McClaran (27) describes the stages of motivational readiness for exercise as being which could be considered as potential questioning in future research. A further limitation might be that the modified questionnaire has not been validated with personal trainers and prospective fitness clients.

We might also consider that evolving experiences, attitudes and perceptions towards gender specifically within fitness/sporting environments might be changing; perhaps the same studies from 1980s (36, 41), and 1990s (10) might not generalize to the current day.

The present study investigated the attitudes and preferences toward male and female personal trainers. Due to the ever expanding fitness industry and that previous research is based around athlete and coach preferences, the purpose of this study was to explore whether male or females' prefer same- or opposite-gender personal trainers by asking questions about gender preference, motivation, ability to take criticism, confidence in the trainer and adherence. Discovering effective ways to incentivise, overcome potential obstacles, or establish exercise preferences could, in turn, encourage exercise adherence and thus improve health and wellbeing of the general population. Future research might consider greater detail within this area, specifically the measurement of same- and mixed-gender trainer-client relationships, as well as different goals, outcomes, exercise habits, etc. The present study showed no gender bias in regards to the preferences of a personal trainer, which

serves to reinforce the the value of both male and female personal trainers.

REFERENCES

1. Arikawa AY, O'Dougherty M, Schmitz K. Adherence to a strength training intervention in adult women. *J Phys Act Health* 8: 111-118, 2011.
2. Armstrong S, Oomen-Early J. Social Connectedness, Self-Esteem, and Depression Symptomatology among Collegiate Athletes versus Non-athletes. *J Am Coll Health* 57(5): 521- 526, 2009.
3. Cohen J. Quantitative Methods in Psychology: A Power Primer. *Psychol Bull* 112(1): 155-159, 1992.
4. Colliander EB, Tesch P. Blood pressure in resistance trained athletes. *Can J Sport Sci* 13: 31-4, 1988.
5. Coutts AJ, Murphy AJ, Dascombe BJ. Effect of direct supervision of a strength coach on measures of muscular strength and power in young rugby league players. *J Strength Cond Res* 18(2): 316-323, 2004.
6. Dishman RK. The problem of exercise adherence: Fighting sloth in nations with market economics. *Quest* 53(3): 279-294, 2001.
7. Eagly AH, Karau SJ. Role congruity theory of prejudice toward female leaders. *Psychol Rev* 109(3): 573-598, 2002.
8. Eagly AH, Wood W, Diekmann A. Social role theory of sex differences and similarities: a current appraisal. In: Eckes T, Trautner HM, eds. *The Developmental Social Psychology of Gender*. Mahwah, NJ: Erlbaum; 2000: 123-174.
9. Fasting K, Pfister G. Female and male coaches in the eyes of female elite soccer players. *Eur Phys Ed Rev* 6(1); 91-110, 2000.
10. Frankl D, Babbitt DG. Gender bias: a study of high school track and field athletes' perceptions of hypothetical male and female head coaches. *J Sport Behav* 21; 396-407, 1998.
11. Frey M, Czech DR, Kent RG, et al. An exploration of female athletes' experiences and perceptions of male and female coaches. *Sport J* 9(4),

ATTITUDES TOWARD MALE AND FEMALE PERSONAL TRAINERS

2006. [Viewed 12 July 2012]. Available at: <http://www.thesportjournal.org/article/exploration-female-athletes-experiences-and-perceptions-male-and-female-coaches>
12. Garcia AW, Broda MA, Frenn M, Coviak C, Pender NJ, Ronis DL. Gender and developmental differences in exercise beliefs among youth and prediction of their exercise behaviour. *J Sch Health* 65(8): 311, 1995.
13. Gentil P, Bottaro M. Influence of supervision ratio on muscle adaptations to resistance training in nontrained subjects. *J Strength Cond Res* 24(3); 639-643, 2010.
14. Grubbs L, Carter J. The relationship of perceived benefits and barriers to reported exercise behaviours in college undergraduates. *Fam Community Health* 25(2); 76-84, 2002.
15. Habif S, Van Raalte JL, Cornelius A. Athletes' attitudes toward and preferences for male and female coaches. *Womens Sport Phys Act J* 10(1); 73-87, 2001.
16. Harris KA, Holly RG. 1987. Physiological responses to circuit weight training in borderline hypertensive subjects. *Med Sci Sports Exerc* 19(3), 246-252, 1987.
17. Hurley B. Does strength training improve health status? *Strength Cond J* 16(3); 7-13, 1994.
18. Jeffery RW, Wing RR, Thorson C, et al. 1998. Use of personal trainers and financial incentives to increase exercise in a behavioural weight-loss program. *J Consult Clin Psychol* 66(5); 777-783, 1998.
19. Jonason PK, An Evolutionary Psychology Perspective on sex differences in exercise behaviors and motivations. *J Soc Psychol* 147(1): 5-14, 2007.
20. Laverie DA. Motivations of ongoing participation in a fitness activity. *Leisure Sci* 20(4): 277-302, 1998.
21. Loland NW. The art of concealment in a culture of display: aerobicizing women's and men's experience and use of their own bodies. *Sociol Sport J* 17 (2): 111- 129, 2000.
22. Madeson, MN, Hultquiste C, Church A, Fisher LA. A Phenomenological Investigation of Women's Experiences with Personal Training. *Int J Exerc Sci* 3(3): 157-169, 2010.
23. Magnusen MJ, Rhea DJ. Division I athletes attitudes toward and preferences for male and female strength and condition coaches. *J Strength Cond Res* 23(4): 1084-1090, 2009.
24. Maguire JA, Mansfield L. No-body's perfect: women, aerobics, and the body beautiful. *Sociol Sport J* 5(2): 109-137, 1998.
25. Maloof RM, Zabik RM, Dawson ML. The effect of use of a personal trainer on improvement of health related fitness for adults. *Med Sci Sports Exerc* 33(5): S74, 2001.
26. Mazzetti SA, Kraemer WJ, Volek JS, et al. The influence of direct supervision of resistance training on strength performance. *Med Sci Sports Exerc* 32(6): 1175-1184, 2000.
27. McClaran SR. The effectiveness of personal training on changing attitudes towards physical activity. *J Sport Sci Med* 2: 10-14, 2003.
28. Medwechuk N, Crossman J. Effects of gender bias on the evaluation of male and female swim coaches. *Percept Motor Skill* 78: 163-169, 1994.
29. Melton D, Dail TK, Katula JA, Mustian KM. Women's perspectives of Personal Trainers: A qualitative Study. *Sport J* 14; 2011. [Viewed 10 July 2012]. Available at: <http://www.thesportjournal.org/article/women-s-perspectives-personal-trainers-qualitative-study>
30. Melton D, Katula JA, Mustian KM. The current state of personal training: an industry perspective of personal trainers in a small Southeast community. *J Strength Cond Res* 22(3): 889-889, 2008.
31. Menkes A, Mazel S, Redmond RA, et al. Strength training increases regional bone mineral density and bone remodelling in middle-aged and older Men. *J Appl Physiol* 74(5): 2478-2484, 1993.
32. Messier SP, Dill ME. Alterations in strength and maximum oxygen consumption consequent to nautilus circuit weight training. *Res Q Exercise Sport* 56(4): 345-51, 1985.

33. Mullen SP, Whaley DE. Age, gender, & fitness club membership: Factors related to involvement and adherence. *Int J Sport Exerc Psychol* 8: 24-35, 2010.
34. Netz Y, Zeev A, Arnon M, Tenenbaum G. Reasons attributed to omitting exercising: a population-based study. *J Sport Exerc Psychol* 6(1): 9- 23, 2008.
35. Nomaguchi KM, Bianchi SM. Exercise time: Gender differences in the effects if marriage, parenthood, and employment. *J Marriage Fam* 66(2): 413-430, 2004.
36. Parkhouse BL, Williams JM. Differential Effects of Sex and Status on Evaluation of Coaching Ability. *Res Q Exercise Sport* 57(1): 53-59, 1986.
37. Plante T, Gustafson C, Brecht C, Imberi J, Sanchez J. Exercising with an iPod, Friend, or Neither: Which is better for Psychological Benefits? *Am J Health Behav* 35(2): 199-208, 2011.
38. Plante TG, Gregg S, Rubbo J, Favero T, Morisako A, Cuadra J. Impact of Exercise Partner Attractiveness on Mood, Enjoyment, and Exertion. *Int J Exerc Sci* 4(4): 265-272, 2011.
39. Ratamess NA, Faigenbaum AD, Hoffman JR, Kang J. Self- selected resistance training intensity in healthy women: the influence of a personal trainer. *J Strength Cond Res* 22(1): 103-111, 2008.
40. Wadden TA, Vogt RA, Foster GD, Anderson DA. Exercise and the maintenance of weight loss: 1-year follow-up of a controlled clinical trial. *J Consult Clin Psychol* 66(2): 429-433, 1998.
41. Weinberg R, Reveles M, Jackson AW. Attitudes of male and female athletes toward male and female coaches. *J Sport Psychol* 6(4): 448-453, 1984.
42. Whitley E, Ball J. Statistics review 4: Sample size calculations. *Crit Care* 6(4): 335-341, 2002.
43. Williams J, Parkhouse B. Social learning theory as a foundation for examining sex bias in evaluation of coaches. *J Sport Exerc Psychol* 10(3): 322-333, 1988.