BIBLIOGRAPHY FOR WOMEN'S WRESTLING

1. Ackerman, K. E., G. S. Skrinar, E. Medvedova, M. Misra, and K. K. Miller. Estradiol Levels Predict Bone Mineral Density in Male Collegiate Athletes: A Pilot Study. *Clin. Endocrinol. (Oxf)*, 2011.
Abstract: Objective: Strenuous training commonly results in amenorrhea, which contributes to bone loss in some female collegiate athletes. However, the impact of athletic training on endocrine function and bone mineral density (BMD) in male collegiate athletes is less well understood. The objective of the study was to investigate the specific endocrine determinants of BMD in male collegiate runners and wrestlers, including the potential impact of gonadal steroid levels. Design: Cross-sectional study Patients: 26 division I collegiate male athletes (wrestlers, runners, and golfers) Measurements: Main outcome measures included 1) BMD endpoints measured by dual energy x-ray absorptiometry (DXA); 2) endocrine endpoints: total and free estradiol, total and free testosterone; 3) body composition endpoints: fat-free and fat mass, measured by DXA; and 4) exercise endpoints: maximal oxygen uptake (VO(2) max), number of miles run weekly, and grip strength. Results: Free and total estradiol levels were important positive determinants of BMD. In contrast, total and free testosterone levels were not significant predictors of BMD at any skeletal site (except for free testosterone at the radius). In addition, fat-free mass, % ideal body weight, total body weight, body mass index (BMI), and hours per week of resistance training were positive predictors of BMD. VO(2) max was a negative predictor of BMD. Mean BMD was higher at all skeletal sites in the wrestlers compared to the runners and a comparison group (golfers). Conclusions: Our data suggest that estradiol levels, BMI, and resistance training are more important determinants of BMD in male collegiate athletes than testosterone.

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Abstract: BACKGROUND: Extensive effort has been put into awareness and prevention programs to decrease the overall rate of injury and the difference between sexes. OBJECTIVE: The objective of this review is to document the rate of ACL injury in 14 collegiate sports over an eight year period and compare it to an earlier 16 year review. DESIGN: Descriptive Epidemiology. SETTING: Universities in the U.S. PARTICIPANTS: NCAA athletes. INTERVENTIONS: There was no intervention. MAIN OUTCOME MEASURES: The primary outcome chosen apriori is injury. RESULTS: The majority of ACL injuries to women occurred by a non-contact mechanism of injury while the majority of ACL injuries to men occurred by a contact mechanism. The highest rates of ACL injury for men were found in American football (0.17 per 1000 A-E and wrestling (0.16 per 1000 A-E). The highest rates of ACL injury for women were found in basketball and lacrosse (0.23 per 1000 A-E). Within the 8 year study period men's and women's ice hockey showed the greatest increase over time with an average annual rate of change of 105% and 136% respectively. Mens' baseball and women's lacrosse showed the greatest decrease in average annual rate of change (16.9% and 17% respectively).When comparing the current 8 years of data to previously reported 16 years of data baseball and women's basketball, showed no change, men's basketball, lacrosse, and wrestling along with field hockey showed an increase and American football, men's and women's ice hockey and soccer, women's lacrosse, softball, and volleyball showed a decrease in overall injury rate. CONCLUSIONS: Despite focused scientific efforts and prevention programs ACL injuries remain a significant injury in collegiate sports. Women continue to sustain ACL injuries at higher rates than men in the comparable sports of soccer, basketball, and lacrosse

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Abstract: BACKGROUND: Acute injuries in sports are still a problem and the knowledge of incidences and severity in different sports at a national level are limited. OBJECTIVE: The aim of this study was to identify high-risk sports with respect to incidence of injury and severity of injuries in 35 sports. DESIGN: A retrospective cohort study was set up based on a comprehensive database from an insurance company. SETTING: Almost 90% of all athletes in Sweden (in 57/70 sports federations), in all ages and at all competitive levels, have their accident insurance in the same insurance company. PARTICIPANTS: All licensed athletes in 35 sports during 2009-2011. MAIN OUTCOME MEASUREMENTS: The incidence of sport injuries as well as severe injuries (medical disability) were calculated for licensed athletes at a national level. Comparisons between sports, gender, and ages were made. Risk ratio was calculated with median injury incidence as the norm. RESULTS: Each year approximately 12 000 injuries (in total 35 971 injuries during 2009-2011) and 1 170 000 licensed athletes were eligible for analysis. The incidence of injury was higher in team sport compared to individual sports. Individual sports with highest incidence were motorcycle/snowmobile, skating, and wrestling. Team sports with highest incidence were handball, ice hockey, and rugby. Sports with a large number of injuries were soccer, ice hockey, floor ball, and handball. Highest proportions of medical disabilities were in motorcycle and then in team sports, such as soccer, basket, handball, and floor ball. Risk ratio for motorcycle was 15 and handball 14. CONCLUSIONS: Sports with numerous acute injuries, high incidence and more severe injuries must be

the target for prevention actions. This study suggests that team sports and motorcycle should be the object. Next step is to identify injury types, anatomical locations and injury mechanisms to understand how to prevent these injuries.

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Abstract: The aim of this paper is to explore and to compare different international media accounts about the presence of veiled athletes in the 2008 Beijing Olympic Games. In other words, to uncover whether the discourse of clash of cultures or that of cross-cultural dialogue has shaped their position about Islam, Muslim identities, Muslim women and the Muslim world in general. Furthermore, from the perspective of media in the Arab and the Muslim world, the purpose of the analysis is to explore their responses to international media, and to investigate their positions in relation to the host nation (China), Asian culture and the Olympics.

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Abstract: Objective: To assess predictive value of concussion signs and symptoms based on return-to-play timelines. Design: Physician practice study without diagnosis that includes presentation, initial and subsequent treatment, and management of concussion. Setting: National multisite primary care sports medicine provider locations. Participants: Twenty-two providers at 18 sites; 101 athletes (91 men, 10 women in the following sports: 73 football, 8 basketball, 8 soccer, 3 wrestling, 2 lacrosse, 2 skiing, 5 others; 51 college, 44 high school, 4 professional, and 2 recreational). Main Outcome Measurements: Duration of symptoms, presence of clinical signs, and time to return to play following concussion. Results: One hundred one concussions were analyzed. Pearson $[chi]^2$ analysis of common early and late concussion symptoms revealed statistical significance ($P < 0.05$) of headache <3 hours, difficulty concentrating < 3 hours, any retrograde amnesia or loss of consciousness, and return to play < 7 days. There appeared to be a trend in patients with posttraumatic amnesia toward poor outcome, but this was not statistically significant. Conclusions: When evaluating concussion, symptoms of headache < 3 hours, difficulty concentrating <3 hours, retrograde amnesia, or loss of consciousness may indicate a more severe injury or prolonged recovery; great caution should be exercised before returning these athletes to play.

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Abstract: We contribute to the sociology of sport and gender literature with an ethnographic analysis of scholastic wrestling by observing the current climate of masculinity and gender. Our results suggest that it is necessary to understand men and sporting behavior within a broader framework of gender, not just masculinity, because the behavior of high school wrestlers fell along a gender continuum between an orthodox masculinity and femininity. Our exploration of the body, performance, and emotion practices of scholastic wrestlers gives credence to the current critiques of a hegemonic masculinity in men's sports. We show that gender is not dichotomous and that even in the highly masculinized sport of wrestling, feminine behavior by men is evident.

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Notes: School of Physical Therapy, Pacific University Oregon, 222 SE 8th Ave., Hillsboro, OR 97123, USA. brum4084@pacificu.edu

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evaluation questionnaire. The results are correlated to identify the relationship with low back pain. This pilot comparative study shows significant disparity between flexor and extensor score in comparison with international standards. The p value is <0.05 and predict a direct correlation to biomechanical error of lumbo-pelvic segment.

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Abstract: Background: In Olympic combat sports, weight cutting is a common practice aimed to take advantage of competing in weight divisions below the athlete's normal weight. Fluid and food restriction in combination with dehydration (sauna and/or exercise induced profuse sweating) are common weight cut methods. However, the resultant hypohydration could adversely affect health and performance outcomes. Purpose: The aim of this study is to determine which of the routinely used non-invasive measures of dehydration best track urine osmolality, the gold standard non-invasive test.
Method: Immediately prior to the official weigh-in of three National Championships, the hydration status of 345 athletes of Olympic combat sports (i.e., taekwondo, boxing and wrestling) was determined using five separate techniques: i) urine osmolality (UOSM), ii) urine specific gravity (USG), iii) urine color (UCOL), iv) bioelectrical impedance analysis (BIA), and v) thirst perception scale (TPS). All techniques were correlated with UOSM divided into three groups: euhydrated (G1; UOSM 250– 700 mOsm?kg H2O21), dehydrated (G2; UOSM 701–1080 mOsm?kg H2O21), and severely dehydrated (G3; UOSM 1081– 1500 mOsm?kg H2O21). Results: We found a positive high correlation between the UOSM and USG (r = 0.89: p = 0.000), although this relationship lost strength as dehydration increased (G1 r = 0.92; G2 r = 0.73; and G3 r = 0.65; p = 0.000). UCOL showed a moderate although significant correlation when considering the whole sample (r = 0.743: p = 0.000) and G1 (r = 0.702: p = 0.000) but low correlation for the two dehydrated groups (r = 0.498–0.398). TPS and BIA showed very low correlation sizes for all groups assessed. Conclusion: In a wide range of pre-competitive hydration status (UOSM 250–1500 mOsm?kg H2O21), USG is highly associated with UOSM while being a more affordable and easy to use technique. UCOL is a suitable tool when USG is not available. However, BIA or TPS are not sensitive enough to detect hypohydration at official weight-in before an Olympic combat championship.

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Abstract: Recently, the influence of genetics on sports performance has received increased attention from many researchers. In combat sports, some investigations have also been conducted. This article's main objective was to review the representation of specific gene polymorphisms in combat sports athletes compared to controls. The following databases were searched: PubMed, Web of Science and SportDiscus. The terms used in this search involved combat sports (boxing, karate, judo, mixed martial arts, taekwondo and wrestling), genes, genetics and candidate genes. Articles published until November 2013 were included if combat sports athletes were considered as a single group (i.e., not mixed with

athletes of other sports). Seven studies were found, with two presenting no difference between combat sports athletes and controls, two presenting higher frequencies of candidate genes related to a more endurance-related profile compared to controls, and three where a more power-related gene overrepresentation was found in comparison to controls. Taken together, the initial studies about the genetic characteristics of combat sports athletes are controversial, which is probably due to the mixed (aerobic and anaerobic) characteristic and to the multifactorial performance determinants of these sports.

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Abstract: CONTEXT: More than 1.6 million sport-related concussions occur every year in the United States, affecting greater than 5% of all high school athletes who participate in contact sports. As more females participate in sports, understanding possible differences in concussion symptoms between sexes becomes more important. OBJECTIVE: To compare symptoms, symptom resolution time, and time to return to sport between males and females with sport-related concussions. DESIGN: Descriptive epidemiology study. SETTING: Data were collected from 100 high schools via High School RIO (Reporting Information Online). PATIENTS OR OTHER PARTICIPANTS: Athletes from participating schools who sustained concussions while involved in interscholastic sports practice or competition in 9 sports (boys' football, soccer, basketball, wrestling, and baseball and girls' soccer, volleyball, basketball, and softball) during the 2005-2006 and 2006-2007 school years. A total of 812 sport concussions were reported (610 males, 202 females). MAIN OUTCOME MEASURE(S): Reported symptoms, symptom resolution time, and return-to-play time. RESULTS: No difference was found between the number of symptoms reported (P = .30). However, a difference was seen in the types of symptoms reported. In year 1, males reported amnesia (exact P = .03) and confusion/disorientation (exact P = .04) more frequently than did females. In year 2, males reported more amnesia (exact P = .002) and confusion/disorientation (exact P = .002) than did females, whereas females reported more drowsiness (exact P = .02) and sensitivity to noise (exact P = .002) than did males. No differences were observed for symptom resolution time (P = .40) or return-to-play time (P = .43) between sexes. CONCLUSIONS: The types of symptoms reported differed between sexes after sport-related concussion, but symptom resolution time and return-to-play timelines were similar

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Abstract: Background: Broad criteria for abnormal electrocardiogram (ECG) findings, requiring additional testing, have been recommended for preparticipation exams (PPE) of athletes. As these criteria have not considered the sport in which athletes participate, we examined the effect of sports on the computerized ECG measurements obtained in college athletes. Methods: During the Stanford 2007 PPE, computerized 12-lead ECGs (Schiller AG) were obtained in 641 athletes (350 male/291 female, age 19.5 +/- 2 years). Athletes were engaged in 22 different sports and were grouped into 16 categories: baseball/softball, basketball, crew, crosscountry, fencing, field events, football linemen, football other positions, golf, gymnastics, racquet sports, sailing, track/field, volleyball, water sports, and wrestling. The analysis focused on ECG leads V2, aVF and V5 which provide a three-dimensional representation of the heart's electrical activity. As marked ECG differences exist between males and females, the data are presented by gender. Results: In males, ANOVA analysis yielded significant ECG differences between sports for heart rate, QRS duration, QTc, J-amplitude in V2 and V5, spatial vector length (SVL) of the P wave, SVL R wave, and SVL T wave, and RS(sum) ($p < 0.05$). In females ECG differences between sports were found for heart rate, QRS duration, QRS axis and SVL T wave ($p < 0.05$). Poor correlations were found between body dimensions and ECG measurements ($r < 0.50$). Conclusions: Significant ECG changes exist between college athletes participating in different sports, and these differences were more apparent in males than females. Therefore, sport-specific ECG criteria for abnormal ECG findings should be developed to obtain a more useful approach to ECG screening in athletes

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Abstract: To determine differences in anthropometric, body composition, physiological and neuromuscular markers between elite and amateur female wrestlers, 35 female wrestlers were assigned into 4 groups according to their body mass (light and middle weight) and their competitive level (elite and amateur): light weight (between 49 and 58 kg) in elite (n = 6) and amateur (n = 12) levels, and middle weight (between 58 and 67 kg) in elite (n = 7) and amateur (n = 10) levels. A binary logistic regression analysis was performed to identify which variables better predict female wrestling success. Elite female wrestlers were older (8-10%), had more training experience (27-29%), fat-free mass (3%), maximum strength in absolute and allometrically scaled values (13-33%), maximal muscle power (16-34%), mean and peak power during an arm crank Wingate testing in absolute and allometrically scaled values (17-23%), jumping height (2-9%) and grip (5-13%), and back isometric strength (10-13%) compared with amateur wrestlers ($p < 0.05$). When the results of the present research and those of a recent study performed in our laboratory with elite male

wrestlers were compared, elite women presented lower ($p < 0.05$) maximum isometric and dynamic strength, muscle power output, and anaerobic metabolism values even when these data were normalized using allometric methods.

55. Garthe, I. and J. Sundgot-Borgen. Weight loss methods and nutritional routines in international weight-class athletes. *Med Sci Sports Exerc* 38:S70, 2006.
Abstract: A number of studies focusing on College wrestlers and pathological weight loss METHODS and strategies to lose weight have been published,b ut there are few international studies on elite athletes representing other weight-category sports than wrestling (e.g. boxing, judo, kickboxing). A previous study on Norwegian elite athletes representing several weight-event sports showed that most of the athletes practiced extreme weight loss METHODS prior to competition to obtain their competitive weight.
PURPOSE: To examine weight loss METHODS and nutritional routines in international level athletes in weight-category sports.
METHODS: A questionnaire was developed and administered to the total population of athletes participating in European Championship in Kickboxing 2004 (n = 282), European Championship in boxing (n = 75, females) and Norwegian national team athletes in Taekwondo, boxing, kickboxing, judo, karate, jujutsu, wrestling and lightweight crews (n = 75) (total n = 414). Questions related to frequency and magnitude of weight loss during the season, weigh control METHODS, the effect on performance and nutritional practices related to weigh in procedures were asked and the questionnaire were translated into seven different languages.
RESULTS: The response rate was 79%. 47% were male (23,8 ± 5,1 yrs, 70,2 ± 12 kg in-season) and 53% were female athletes (24,5 ± 4,1 yrs, 59,1 ± 9,7 kg in-season). 77% and 64% of the male and female athletes usually/always reduce their body weight prior to competition ($p<0,01$). The average weight reduction was 5,9% of total bodyweight for both gender. The average number of weight reduction periods during one season was 4,6 ± 2,5 times for male and 5,5 ± 2,8 for female athletes ($p<0,01$). The most common weight reduction METHODS used by men and women respectively, where increased exercise (49% vs 40%) ($p <0.01$), reduced energy intake (45% vs 34%) ns, sauna (39% vs 31%) ns and restricted fluid intake (21,4% vs 24,2%) ($p<0,01$). 41% of the male and 26% of the female athletes reported that weight cutting had a negative effect on performance ($p<0,01$).
CONCLUSION: The majority of the weight-class athletes competing at international level lose bodyweight prior to competitions, and use similar weight reduction METHODS as College wrestlers. Information is needed to prevent extreme weight loss METHODS among these athletes.

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The article focuses on the increase in wrestling competitions for women in the U.S. Both the USA Wrestling (USAW) and the National Collegiate Wrestling Association (NCWA) have provided first-time tournament for girls and women in March 2008. Coach Scott Miller suggests that women's wrestling should be conducted as folkstyle in order for it to grow on an educational sports level. A wrestling tournament entitled "Lone Star Duals" will form a women's team in January 2009.

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Abstract: The first successfully organized training session in wrestling for woman were proformed in 1971 by the coach Pjer Birener (France). These contribute to the women's wrestling big progress in the world especcialy explocation in France and the other wrestlers nations. The first international competitions were held in the eighties, while the first world championship took place in Norway in 1987. Thanks to the efforts of the coach Strasho Gligorov in October 1995 the first women's team on wrestling in Macedonia is formed. The proformed analysis of the world championship showed that the women's wrestling has a great spectacularity, attractiveness and dynamisue.

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Abstract: Comparisons on sensation seeking as measured by Zuckerman's Sensation Seeking Scale IV (SSS) were made between and among the following university student groups: male varsity and J.V. team members (baseball, gymnastics, lacrosse, track and field, wrestling); female varsity and J.V. team members (basketball, gymnastics, swimming, track); and male and female nonathletes selected from students enrolled in a core course in food science. Multivariate stepwise discriminant function analysis showed that the SSS failed to, discriminate among the four female athletic teams; and of the 10 paired comparisons among the five male athletic teams, only the baseball team was different from the lacrosse and wrestling teams. The female athletes had higher sensation seeking need than the female nonathletes, but the SSS failed to discriminate between the male athletes and male nonathletes. In all comparisons between males and females, the males had a significantly higher sensation seeking need.

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Abstract: The purpose of this study was to evaluate the relative risk of anterior cruciate ligament injury in female versus male midshipmen at the United States Naval Academy. From 1991 to 1997, we recorded the incidence of anterior cruciate ligament injury during intercollegiate athletics, intramural athletics, and military training. The subjects were male and female varsity athletes, coed intramural athletes, and participants in military training consisting of the obstacle course and instructional wrestling. All patient data were collected at the time of injury. Records filed at the intramural sports office, along with a questionnaire completed by coaches and trainers, were used to estimate midshipmen exposures. Results showed that in intercollegiate soccer, basketball, and rugby, women had a relative injury risk of 3.96 compared with men. In coed soccer, basketball, softball, and volleyball, the women's relative injury risk was 1.40 compared with men. In military training, women had a relative injury risk of 9.74 compared with men. In comparing overall annual anterior cruciate ligament injury rates among midshipmen, we found that women had a relative injury risk of 2.44 compared with men. We concluded that female midshipmen have an increased relative risk of anterior cruciate ligament injury as compared with men in intercollegiate athletics, basic military training, and throughout their service academy career. This increase was not statistically significant at the intramural level of athletics.

64. Halvari, H. (1990). EFFECTS OF ACHIEVEMENT MOTIVES AND SEX ON WRESTLING ABILITY AND MOTOR PERFORMANCE. *International Journal of Psychology*, *25*(4), 529.
Abstract: An earlier study of main effects of achievement motives on performance amongst boy wrestlers was repeated with girls. The 1970 Achievement Motives Scale of Gjesme and Nygård was administered to 29 girls, and subjects' scores were sampled for three different wrestling championships at a national level, Oxygen uptake, speed of movement, four muscular strength exercises, and serial performance of five wrestling holds were measured. As with males, success-oriented females performed better than indifferent-oriented subjects in wrestling championships. The former group performed also better than the latter in pull-ups, sit-ups, forward throw and 1/4 Nelson. In addition, success-oriented females performed better than those who were failure-oriented in pull-ups and sit-ups, although this was not the case in other tasks and championships. Indications of sex differences in the relationship between motivation and performance were found among subjects who aim for achievement and, at the same time, have a high motive for failure, i.e. those who were conflict-oriented. Motive patterns and sex influence some, but not all, of the responses measured in the different tasks. Suggestions for future systematic research on a task effect are discussed. In general, the data indicate that, among highly selected and high ability boys and girls who set a high value on goals of an activity, relationships between achievement motives and performance in that activity should emerge for both sexes. In addition, sex should modify motive-performance relationships.

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Abstract: The association between androgens and competition in women has been understudied compared with men. The current study examined the link between testosterone (T) and competition in elite female athletes, using a sample of female wrestlers that included athletes competing at both the national and international level. In a repeated-measures design, saliva samples were collected before and after wrestling bouts, with comparable samples of wins and losses, and subsequently analyzed for T. Study results showed a 22% increase in circulating bioavailable T from pre- to postbout, $F(1, 12) = 9.71$, $P = .009$. There was no significant difference in T between win or loss outcomes. These findings-showing a

link between individual head-to-head competition and T in women-demonstrate that women's androgenic responses to environmental contexts are dynamic and may be an important factor to address in research on competitive performance.

66. Hetzler, R. K., I. F. Kimura, K. Haines, M. Labotz, and J. Smith. Author's Response. *J Athl Train* 42:356, 2006.
Abstract: Dear Editor,
We thank Fr Doug Burns and Dr Kevin Waninger for sharing their thoughts concerning our recent paper in their letter. We appreciate their statement on the importance of this type of research to protect the health of high school wrestlers. Below we address the points and questions raised in the same sequence as in their letter.In their second paragraph, Burns and Waninger accurately summarize our study. They also state, "The authors used an analytical technique not commonly applied for comparison of body composition data: plotting the data according to the Bland-Altman technique (Figures 1-8) rather than the more common relational scatter plot." Burns and Waninger also state: In general, if one looks only at the averages of the MWW [minimum wrestling weight] values, little difference is evident between SF [skinfold] and BIA [bioelectrical impedance] values in both male and female wrestlers. However, when predicting a safe amount of weight for the individual wrestler to lose over the season, fairness in wrestling weight classification and, more importantly, the wrestler's eventual health depend on individual values, not average values. It is therefore important to look at the scatter of the data, not the average values.
We actually included scatter plots in the original submission of the paper but removed them in response to a reviewer's request. Although the scatter plots were removed, we feel that the residuals shown on the Bland-Altman plots accurately show the absolute differences between the BIA measurements and estimates of body composition. Their third paragraph deals with the ethnic diversity of our subject population, and they make an important observation. The lack of ethnic-specific equations for the subjects was a limitation of our study and points to the need for further research in this area. The state of Hawaii has great ethnic diversity, and the children of the state reflect this diversity. Multiethnic families are commonplace in Hawaii, and, thus, many of the children are of mixed ethnic backgrounds. Therefore, classifying subjects by ethnicity becomes problematic (as does the selection of prediction equations to determine body composition). On the island of Oahu at the time of data collection, the ethnic breakdown, based on census data, was approximately 27% white, 2% black, <1% American Indian, 42% Asian, 9% native Hawaiian/Pacific Islander, and 20% mixed (2 or more ethnicities). Although we did not determine the ethnic backgrounds of the subjects in our study, we speculate that our subject population was fairly representative of the population as described above. We tend to agree with the comments that Burns and Waninger made in the fourth paragraph concerning the use of BIA to establish MWWs. However, we do recognize that improvements in prediction equations and BIA instrumentation may alleviate some of these concerns in the future. We feel that their contention that BIA results in "relative" measures rather than "absolute" measures of body composition is beyond the scope of our paper and is perhaps debatable. However, if their contention is accepted, it would certainly obviate the use of BIA to determine MWWs. In the next paragraph, they raise another important point when they state, "A 5-lb error in assessing how much weight a 112-lb wrestler can safely lose has a much greater effect than the same 5-lb error applied to a 225-lb wrestler, so this reality is a significant implication of the authors' results" and "The issue of safety for an individual wrestler's weight loss calculation depends on the accuracy of an absolute measurement of lean body mass." We acknowledge this to be true and, in retrospect, we would probably change our discussion to reflect this point. The next paragraph deals with the "intertester validity (test objectivity) for SF measurements," which they contend is "notoriously poor, and experience is required to learn how to take SF measurements with high reliability." This is an insightful comment and poses a real concern for those charged with fairly determining MWWs. We have unpublished data from our laboratory showing that certified athletic trainers can achieve a high degree of intertester reliability after a training session in body composition assessment using SF. Additionally, their measurements were in good agreement with those of the 2 professors who offered the training and who have a great deal of experience in this area. In any case, the methods used to actually determine MWWs in our study by SF were not under our control. Rather, the Hawaii Athletic Trainers' Association developed and implemented the program, and we used their actual minimal weight calculations in our data set. We agree with the last comment of Burns and Waninger that methods to determine minimal weights should be standardized and that for competitive equity and the safety of the athletes, only one method should be used. We appreciate the insightful comments by Fr Burns and Dr Waninger and would like to thank the Editor-in-Chief for the opportunity to respond.

67. Hübner-Wozniak, E.; Ochocki, P. 2009 Effects of training on resting plasma levels of homocysteine and C-reactive protein in competitive male and female wrestlers Biomedical Human Kinetics 1:1 42-46
Summary: Study aim: To assess the effects of training on resting plasma levels of homocysteine (Hcy), C-reactive protein (CRP), folic acid, and on the activity of creatine kinase (CK) in competitive male and female wrestlers. Material and methods: Polish elite wrestlers, male MW; n = 11) and female (FW; n = 11), as well as corresponding numbers of untrained, control subjects (MC an

d FC, respectively), participated in the study. Blood for assays was withdrawn from the antecubital vein in the morning, in pre-prandial state. Homocysteine (Hcy), C-reactive protein (CRP), folic acid and creatine kinase (CK) activity were assayed in plasma. Results: Mean concentrations of Hcy and CRP were in the control groups significantly higher and those of folic acid– lower than in the respective groups of wrestlers. Folic acid levels were negatively correlated with Hcy, especially in wrestlers (r = -0.540; p<0.01). Mean CK activity was significantly (p<0.001) higher in male wrestlers than in male controls or female subjects. No significant correlation between CK and CRP was found. Conclusions: Strength-speed training practiced by elite wrestlers, associated with significantly lower values of Hcy and CRP in them compared with the untrained subjects, may reduce the risk of cardiovascular diseases at later age, like in case of endurance training.

68. Hubner-Wozniak E. and Kosmol A. Blood lactate as an indicator of match intensity in female wrestling. In: Pre-olympic Congress 2004. Thessaloniki, Grécia. de 6 a 11 de Agosto de 2004, 2004.
Abstract: **Introduction**
Female wrestling will feature for the first time in the Olympic Games in Athens. For both men and women the duration of a wrestling match is the same (2 x 3 min, with a 30 s break). It has been demonstrated that in male wrestlers blood lactate concentration after match is very high [1, 2, 3] which means that anaerobic metabolism is predominant energy source [6]. However there are no such data available for female wrestlers. Thus the aim of the present study was to examine wrestling match intensity in women and to compare with men basing on the post match blood lactate concentration.
Methods
The subjects of the present study were 18 female and 14 male free style wrestlers of the Polish National Team. The study was conducted during international Warsaw Cup'03 and Ziółkowski Tournament'02, respectively. The subjects were informed about experimental procedures and discomfort associated with the study before they gave their informed consent. The Ethics Committee of the Academy of Physical Education in Warsaw, approved the studies. Blood was taken from earlobe 5 min after each full-length (2 x 3 min) match. Blood lactate concentration was determined using commercial Dr Lange kits (Germany) [5]. Results were expressed as mean SD. Differences between lactate concentrations were determined using Student t test for independent samples. The level of significance was set at p<0.05.
Results
In female wrestlers mean blood lactate concentration 5 min after match was 13.82.8 mmol/l and was significantly lower then in male wrestlers (15.82.3 mmol/l). There was no relationship between lactate concentration and the success of male and female subjects participated in wrestling matches.
Discussion/Conclusions
This study is the first to conduct an evaluation of post match blood lactate concentration in female wrestlers. It is well known that blood lactate concentration after short-term, maximal exercise is higher in men then in women [4]. However very high blood lactate concentration after matches both in male and female athletes demonstrating that the anaerobic metabolism was the dominant energy source during wrestling. The results of this study suggest that a specific anaerobic training programme should be similar for female and male free style wrestlers.

References

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69. Hubner-Wozniak, E. E., Kosmol, A. A., Lutoslawska, G. G., & Bem, E. Z. (2004). Anaerobic performance of arms and legs in male and female free style wrestlers. Journal Of Science & Medicine In Sport, 7(4), 473-480.
Abstract: The aim of the present study was to compare arm and leg anaerobic peak and mean power after normalisation for body mass (W/kg) and fat-free mass (W/kg FFM) of 12 female and 10 male wrestlers, members of the Polish Olympic team. Power outputs were assessed by 30 seconds leg cycling and 30 seconds arm cranking. It was determined that males had higher peak power (11.4 W/kg and 13.2 W/kg FFM for legs, 9.6 W/kg and 11.2 W/kg FFM for arms) as well as mean power (8.7 W/kg and 9.6 W/kg FFM for legs, 6.9 W/kg and 7.9 W/kg FFM arms) than females (peak power 8.6 W/kg and 11.3 W/kg FFM for legs, and 5.9 W/kg, 7.8 W/kg FFM for arms, mean power 6.8 W/kg. 9.0 W/kg FFM for legs and 5.9 W/kg, 7.8 W/kg FFM for arms). Post-exercise maximal blood lactate concentration after 30 seconds leg cycling and 30 seconds arm cranking was also higher in male wrestlers (11.9 and 11.8 mmol/1, respectively) than in female wrestlers (10.4 and 9,1 mmol/1, respectively). However the ratios of lactate concentration to mean power expressed in W/kg FFM for males and females in leg cycling (1.18 and 1.17, respectively) and in arm cranking (l.48 and 1.50, respectively) were similar. These

findings suggest that the amount of energy derived from glycolysis is not sex-dependent. Additionally it seems that the higher ratios for arms when compared to legs reflect closer relation of arm muscle energy metabolism to carbohydrate utilisation.

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Abstract: This work was aimed at finding out whether the activity of creatine kinase (CK) in plasma was related to body mass (BM), lean body mass (LBM) or to skeletal muscle mass (MM). These relations between biochemical and anthropometric parameters were studied in 17 free style elite wrestlers and 37 elite judoists (20 men and 17 women) during exercise of low intensity and at rest. MM was estimated from daily excretion of creatinine in urine and LBM from skinfold measurements. High or very high correlation were found between total body mass and its fractions while none of those parameters correlated with CK activity in plasma. This finding is important when analyzing the post-exercise or recovery changes of CK activity, particularly in prolonged training period.

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Abstract: The aim of this study was to compare plasma triglyceride and lipoprotein concentrations of male and female subjects of different training levels and to examine the risks of cardiovascular diseases. For this purpose, 20 male athletes from the National Turkish Wrestling Team (age 23.5±1.25 years) and 44 male and 51 female students (ages 21.7±1.72 and 20.20±1.68 years, respectively) from physical education and sports department and 40 sedentary females (age 21.14±1.72 years) participated this study. Trigliceride (TG), total cholesterol (TC), HDL-C and LDL-C levels were determined by Hitachi 717 autoanalyser. Apo A-1, Apo B and Lp(a) levels were determined by Behringer Nephelometer 100. Maximum oxygen consumption (VO2max) values were predicted from the results of 12 min run test and the maximalanaerobic power values were measured by Jump Meter Instrument. There were no significant differences in plasma TC, TG and small lipoprotein a (Lp (a)) values between four groups ($p>0.05$). No significant differences were found in HDL-C, LDL-C, apolipoprotein A1 (Apo-A1) and apolipoprotein B100 (Apo-B) values between wrestlers and male students; and between female students and sedentary females ($p>0.05$). HDL-C values of female students and sedentary females were significantly higher when compared with wrestlers and male students (41.52 and 40.93 mg/dl versus 51.92 and 50.10mg/dl). However, LDL-C values were found to be lower in females than in males (121.83 and 101.10 mg/dl as oppose to 97.7 and 98.4mg/dl). Significant ($p<0.05$) of differences were found between wrestlers and both female groups. Although the wrestlers' training levels were higher than that of male students, their TG and lipoprotein values were not different. These variables were not different between female groups either. These results showed that in young subjects medium and high level of exercises did not cause significant differences in TG and lipoprotein levels, but the gender differences were very pronounced. Neither in wrestlers nor in the remaining groups of subjects the lipid and lipoprotein profiles indicate risk of coronary heart disease.

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Abstract: Olympism is a unique movement that connects people, cultures, and all countries of the world, promoting peace, and building good will and cooperation. The Olympic Games (Olympics) are the manifest form of the International Olympic Movement (MOP) and a mega sporting event in which the best athletes of the world participate. They promote peace and a system of values cherished by all societies. More than 1320 athletes took part in the Olympic Games in Beijing in 2008, of which 198 women (14%). 98 medals were won, of which 15, or nearly 15% were won by women. Today, in the year when we celebrate 101 years since the founding of the Olympic Committee of Serbia (OCS), the situation regarding female participation in sport is still undetermined, better to say unsettled. The experience of OCS can be summarized by the following facts: (1) there has been a numerical equality in the delegations of the OCS", in summer and winter EYOF. The participation of girls and women in the

delegations of the winter program is high and on the verge of numerical equality. Regarding participation in the LO1 a smaller percentage of women is registered; (2) the analysis of activities in a part of sports and business function in a sports organization indicates that the strategy of increasing women's participation is not implemented or if there is a strategy, it is implemented sporadically; (3) the following is recorded: the continuity of absence of female teams in basketball and handball (they used to be Olympic medal winners), athletes in rhythmic gymnastics and synchronized swimming (sports with Olympic tradition), while most of the new disciplines in the Olympic women's program (boxing, wrestling) are not developed in Serbia or the degree of competition does not exceed the minimum point requirements for participation; (4) volleyball, shooting, and tennis record high level of competitiveness, and guaranteed participation. The situation is similar in one swimming event, as well as more numerous participation of women than men is registered in athletic events; (5) both business and sports function of OCS are based on the principle of equality and universality, so that a woman was the head of the OCS mission in the Olympic Games in Beijing (2008), a woman was the bearer of the Serbian flag at the Games in Beijing, Vancouver and the M1 in Pescara; (6) the participation of women officials in the work of national sports federations is not recorded, namely there are no women coaches in the Olympic delegations; (7) the causes of such state could not be described by forms of discrimination or lack of equality in sports, organizational, business and management level of Olympic delegations.

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Abstract: OBJECTIVE: To investigate the epidemiology of dislocations/separations in a nationally representative sample of high school student-athletes participating in 9 sports. DESIGN: Descriptive epidemiologic study. SETTING: Sports injury data for the 2005-2009 academic years were collected using an Internet-based injury surveillance system, Reporting Information Online (RIO). PARTICIPANTS: A nationally representative sample of 100 US high schools. ASSESSMENT OF RISK FACTORS: Injuries sustained as a function of sport and gender. MAIN OUTCOME MEASURES: Dislocation/separation rates, body site, outcome, surgery, and mechanism. RESULTS: Dislocations/separations represented 3.6% (n = 755) of all injuries. The most commonly injured body sites were the shoulder (54.9%), wrist/hand (16.5%), and knee (16.0%); 18.4% of dislocations/separations were recurrences of previous injuries at the same body site; 32.3% of injuries were severe (ie, student-athletes unable to return to play within 3 weeks of the injury date), and 11.8% required surgical repair. The most common mechanisms of injury were contact with another player (52.4%) and contact with the playing surface (26.4%). Injury rates varied by sport. In gender-comparable sports, few variations in patterns of injury existed. Rates were highest in football (2.10 per 10 000 athletic exposures) and wrestling (1.99) and lowest in baseball (0.24) and girls' soccer (0.27). CONCLUSIONS: Although dislocation/separation injuries represent a relatively small proportion of all injuries sustained by high school student-athletes, the severity of these injuries indicates a need for enhanced injury prevention efforts. Developing effective targeted preventive measures depends on increasing our knowledge of dislocation/separation rates, patterns, and risk factors among high school athletes.

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Abstract: OBJECTIVE: To investigate the epidemiology of player-player contact injuries in a nationally representative sample of US high school student-athletes. METHODS: Data from the National High School Sports-Related Injury Surveillance Study were analyzed to calculate rates, describe patterns, and evaluate potential risk factors for player-player contact injuries. RESULTS: Player-player contact injuries represented 46.4% of all high school sports injuries and occurred at a rate of 11.6 per 10,000 athlete exposures (AEs). Player-player contact injury rates (per 10 000 AEs) were highest in football (26.0), wrestling (10.8), and girls' soccer (9.8). Body sites most commonly injured were the ankle/foot (21.9%),

head/face (18.9%), and knee (16.9%). Most common diagnoses were ligament sprains (32.5%). CONCLUSIONS: Player-player contact is the most common mechanism of injury among high school athletes. The epidemiology of such injuries varies by gender and sport. Developing effective preventive measures depends on increasing our knowledge of player-player contact injury rates, patterns, and risk factors.

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Abstract: The aim of this study was to compare plasma lipid and lipoprotein concentrations of male and female subjects in different training levels and to examine the risks of cardiovascular diseases. For this purpose, 20 male athletes from the National Turkish Wrestling Team (age 23.5 +/- 1.25 years) and 44 male and 51 female students (ages 21.7 +/- 1.72 and 20.20 +/- 1.68 years, respectively) from physical education and sports department and 40 sedentary females (ages 21.14 +/- 1.72 years) participated in this study. Trigliceride (TG), total cholesterol (TC), HDL-C and LDL-C levels were determined by a Hitachi 717 Autoanalyser. Apo A-l, Apo B, and Lp(a) levels were determined by Behringer Nephelometer 100. Maximum Oxygen Consumption (VO(2) max) values were determined by 12-min run test and the anaerobic power values were measured by Jump Meter Instrument. Energy consumption of basal metabolic rates were for males 1 kcal for an hour and 0.9 kcal for females. There were no significant differences in plasma TC, TG, and small lipoprotein a (Lp(a)) values between four groups ($p > .05$). No significant differences were found in HDL-C, LDL-C, apolipoprotein Al (Apo-Al), and apolipoprotein B100 (Apo-B) values between wrestlers and male students, and between female students and sedentary females ($p > .05$). HDL-C values of female students and sedentary females were significantly higher when compared with the same values of wrestlers and male students (41.52 and 40.93 mg/100 ml versus 51.92 and 50.10 mg/100 ml). However, LDL-C values were found to be lower in females than males (121.83 and 101.10 mg/100 ml as opposed to 97.7 and 98.4 mg/100 ml) but only significantly lower than in wrestlers ($p < .05$). Although the wrestlers' training levels were always higher than male students, the lipid and lipoprotein values were not different. These variables were not different between female groups either. But the lipid and lipoprotein profile of female subjects was found to be better than that of males. These results showed that medium and high level of exercises did not cause significant differences in lipid and lipoprotein levels, but the sex differences were very pronounced. Lipid and lipoprotein values of the four groups have indicated that the individuals in these groups would not be exposed to danger of cardiovascular diseases.

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Abstract: The article presents a study on female wrestlers' insights as they take part in a traditionally male-dominated sport. It notes that the purpose of the research was to investigate whether perceptions of other studies that female wrestlers are experiencing issues in femininity and sexuality are true. Results of the study revealed that these women have no major concerns with regard to gender-role conflict and that being a female is not an issue for them.

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sexual dimorphism indices in athletes and sedentary people. It was determined that sexual dimorphism manifestations in athletes were as follows: (1) Short memory capacity (62.58% ± 3.21%) and coefficient of operational thinking (2.67% ± 0.16 standard units) were increased in women in comparison with men (55.78% ± 2.07% and 1.44 ± 0.30 standard units, $p < 0.05$, accordingly); and (2) To the contrary, neuro-dynamic functions were decreased in women (latent time of simple (266.92 ± 4.73 ms)) and composite (494.44 ± 6.38 ms) visual-motor reactions and power of nervous processes (18.49% ± 8.93%) in comparison with men (239.62 ± 5.26 ms, 440.10 ± 6.61 ms, 5.33% ± 0.59%, $p < 0.05$, accordingly). Obtained results indicate influence of sexual dimorphism on psychophysiological functions.

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Abstract: Among the numerous studies devoted to the study of perception and information processing, no data available on the effects of age on these processes. In this paper we studied the influence of psycho-emotional stress and different levels of stress on the mental processes of perception and information processing in highly skilled athletes divided into two groups. The first group included the athletes aged 19-24 years (12 athletes, members of the Ukrainian team in Greco-Roman wrestling), the second group included the athletes aged 27-31 years (7 highly skilled athletes, members of the Ukrainian team in Greco-Roman wrestling). We revealed that the athletes of the first group had higher productivity and better visual perception and visual information processing efficiency, compared with athletes from the second group. This observation suggests a dependency of cognitive component of perception and information processing on the age of the athletes. Sportsmen from the second group had higher stress resistance compared to the older age group

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Abstract: OBJECTIVES: Concepts explored in our study concerned identification of various types of motivation and their connection to psychophysiological states in elite judo and Greco-Roman wrestlers. We tried to figure out how do these different types of motivation interact to describe psychophysiological state in qualified wrestlers. METHODS: Neuropsychological evaluation methods as simple (SRT) and choice reaction-time (CRT) tests, HRV measurements, psychological questionnaires. To explore obtained data methods of statistical analysis were used RESULTS AND CONCLUSION: Obtained data show that different combinations of levels of motivation to achieve success and motivation to avoid failure provoke different psychophysiological states. Conducted experiment revealed that combination of high levels of both motivation to achievement of success and motivation to avoid failure provides better psychophysiological state in elite wrestlers compared to other groups with different combinations of motivational variables. Conducted experiment revealed that motivation to avoid failures had been formed as a personality formation, which compensates excessive tension, caused by high level of motivation to achieve and regulate the psychophysiological state. This can be viewed as an effect of training in athletes.

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Abstract: To read the written history of U.S. sport and exercise psychology, one easily could assume that women were absent from the field. Yet, indisputably women have assumed influential leadership roles through their research, leadership in professional organizations, editing major journals, and mentoring graduate students and novice professionals. Based on life history interviews, grounded in standpoint and feminist cultural studies perspectives, we present the collective contributions of 8 women who greatly affected the development of the field of sport and exercise psychology in the U.S. Although traveling different paths and having varied strengths and weaknesses, certain attributes distinguished their journeys; most notably, they were driven, selfless, dignified, humble, competent, and passionate about developing the field. Their legacy includes generations of students who have carved their own careers in sport and exercise psychology; lines of research that have established the field as rigorous, theory-based, practical, and relevant; and caring and competent leadership in our professional organizations.

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Abstract: The present study explored the relationship between task involvement and coping with stress in elite competition. Participants were 82 elite wrestlers, both male (n=60) and female (n=22), from four different European countries, age 16-37. The data for the study were gathered over an 18-month period, and both qualitative in-depth interviews (n=6) and quantitative approaches were used. The quantitative study measured motivation from an achievement goal theory perspective: achievement goal orientation [Perception of Success Questionnaire], perceptions of the motivational climate [Perceived Motivational Climate in Sport Questionnaire] and coping strategies (Brief COPE). The qualitative part explored motivation and coping in depth. As expected, task involved wrestlers coped better in competitive situations due to their use of more adaptive coping strategies. The wrestlers' experiences seemingly make them prefer to stay task involved and use adaptive coping strategies (both problem-focused and emotion-focused strategies) in competition.
Notes: Norwegian University of Sport Science, Oslo, Norway

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Abstract: The purpose of the study was to elucidate the actual state of weight loss among the contestants for the All Japan Wrestling Championships. [Method] All the 286 contestants (196 males, 90 females) for the All Japan Wrestling Championships in 2002 were selected as the respondents for the survey, and the intent of the survey questionnaire was explained to them. A self-administered questionnaire was used for the survey. [Findings] The number of wrestlers who subjected themselves to a weight loss program for the championships amounted to 163 among males (83%), 62 among females (77%); among these wrestlers, 147 males (90%) and 56 females (90%) tried to reduce their weight by more than 5 kg. Those who had a weight loss program of less than 8 days numbered 118 among males (72%), and 51 among females (82%). These findings reveal that the contestants for the competition, the majority of whom were elite wrestlers, lose an excessive amount of weight in a short time.

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Abstract: This literature review evaluates the significance of dental injuries and their relationship to specific sports activities. Many studies have been published on individual sports or groups of sports but most pertain to specific age groups or levels of competition. Research suggests that many sports that do not require mouthguards should encourage male and female participants to use orofacial protectors. Athletes, coaches, athletic directors, athletic trainers, parents, and members of the dental community should be aware of how individuals who participate in sporting activities are at risk for dental trauma. Any sport where the potential for dental trauma can exist (such as basketball, soccer, or wrestling) should consider utilizing mouthguards to protect the competitors. The establishment of mouthguard programs for athletes of all ages, genders, and sports may help to reduce the incidence of dental trauma. A sports-related, orofacial/dental trauma reporting system is considered.

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Abstract: A timeline is presented on the history of sports for women related to Title IX of the U.S. Education Amendments of 1972 barring sex discrimination in education by schools receiving U.S. funds. Events cited in the timeline include the law's signing by President Richard Nixon on June 23, 1972, the February 17, 1976 filing of a lawsuit by the National Collegiate Athletic Association (NCAA) claiming that college sports did not receive U.S. funds which was subsequently dismissed and the June 11, 2003 dismissal of a U.S. action against the Department of Education by the National Wrestling Coaches Association challenging the department's regulations related to Title IX.

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Abstract: The past 35 years have seen a tremendous increase in the number of female athletes at all ages and abilities. Recent research has shown a myriad of benefits for girls and women who participate in sports. Physical activity positively influences almost every aspect of a young woman's health, from her physiology to her social interactions and mental health. As the level of girls' participation in sports increases, it is important to examine their risk factors for sports-related injuries.

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Abstract: Wrestling has generally been considered to be a masculine sport. To increase female participation in the sport, managers and administrators will need to understand how wrestling is perceived differently by the genders. A focus group interview was conducted with eight participants from both genders to examine how wrestling was perceived. The findings suggested that wrestling was regarded more as a form of violent entertainment rather than as a sport. A survey instrument was then constructed using statements made by the focus group. The survey was administered to 155 respondents of which 56% were females. The mean age of the respondents was 19.8 years. The findings from the survey concurred with the findings from the focus group interview. Wrestling is considered to be a violent and gendered form of entertainment. However, gender differences exist with females more likely to see wrestling as a form of entertainment as compared to males. Females are also more likely to view wrestling as violent and consequently, they tend to see wrestling as more suited for male participation. The findings suggest that sports managers and administrators will need to manage the perception that wrestling is a form of violent entertainment among females by creating opportunities for women to experience the sport and to correct their perception of the sport.

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Abstract: Hand-grip strength has been identified as one limiting factor for manual lifting and carrying loads. To obtain epidemiologically relevant hand-grip strength data for pre-employment screening, we determined maximal isometric hand-grip strength in 1,654 healthy men and 533 healthy women aged 20-25 years. Moreover, to assess the potential margins for improvement in hand-grip strength of women by training, we studied 60 highly trained elite female athletes from sports known to require high hand-grip forces (judo, handball). Maximal isometric hand-grip force was recorded over 15 s using a handheld hand-grip ergometer. Biometric parameters included lean body mass (LBM) and hand dimensions. Mean maximal hand-grip strength showed the expected clear difference between men (541 N) and women (329 N). Less expected was the gender related distribution of hand-grip strength: 90% of females produced less force than 95% of males. Though female athletes were significantly stronger (444 N) than their untrained female counterparts, this value corresponded to only the 25th percentile of the male subjects. Hand-grip strength was linearly correlated with LBM. Furthermore, both relative hand-grip strength parameters (F (max)/body weight and F (max)/LBM) did not show any correlation to hand dimensions. The present findings show that the differences in hand-grip strength of men and women are larger than previously reported. An appreciable difference still remains when using lean body mass as reference. The results of female national elite athletes even indicate that the strength level attainable by extremely high training will rarely surpass the 50th percentile of untrained or not specifically trained men.

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Abstract: BACKGROUND: The prevalence of jumper's knee across different sports has not been examined, and it is not known if there is a gender difference. Data from surgical case series indicate that there may be a high prevalence in sports with high speed and power demands. HYPOTHESIS: The aim of this study was to estimate the prevalence of jumper's knee in different sports among female and male athletes and to correlate the prevalence to the loading characteristics of the extensor mechanism in these sports. STUDY DESIGN: Cross-sectional study; Level of evidence, 4. METHODS: The authors examined approximately 50 Norwegian male and female athletes at the national elite level from each of the following 9 sports: athletics (male athletes: high jump, 100- and 200-m sprint), basketball (male athletes), ice hockey (male athletes), volleyball (male athletes), orienteering (male athletes), road cycling (male athletes), soccer (male and female athletes), team handball (male and female athletes), and wrestling (male athletes). The examination included an interview on individual characteristics (weight, age, height, and training background), a clinical examination, and self-recorded Victorian Institute of Sport Assessment score from 0 (worst) to 100 (best). RESULTS: The overall prevalence of current jumper's knee was 14.2% (87 of 613 athletes), with a significant difference between sports with different performance characteristics (range, 0%-45%). In addition, 51 athletes (8%) reported previous symptoms. The prevalence of current symptoms was highest in volleyball (44.6% +/- 6.6%) and

basketball (31.9% +/- 6.8%), whereas there were no cases in cycling or orienteering. The prevalence of current jumper's knee was lower among women (5.6% +/- 2.2%) compared with men (13.5% +/- 3.0%; chi(2) test, P = .042). The duration of symptoms among athletes with current jumper's knee (n = 87) was 32 +/- 25 (standard deviation) months, with a Victorian Institute of Sport Assessment score of 64 +/- 19. CONCLUSION: The prevalence of jumper's knee is high in sports characterized by high demands on speed and power for the leg extensors. The symptoms are often serious, resulting in long-standing impairment of athletic performance.
Notes: Oslo Sport Trauma Research Center, Norwegian University of Sport and Physical Education, PO Box 4014, Ulleval Stadion, 0806 Oslo, Norway. roald@nih.no

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Abstract: Wrestling normally places extreme demands on the body and thus may cause various kinds of injuries. An in-depth understanding of the episodes of injured sites, types, timings, and treatment modalities would help participants be aware of wrestling-related injury occurrences so as to develop effective preventive measures. Therefore, this study aims to investigate the gender-specific injuries among elite wrestling athletes. Subjects were selected from the 2009 Taiwanese National Wrestling Sport Championship. Participants were adolescent wrestling athletes, ages 16-18, who must have received at least one bronze medal at national level tournaments in 2008. A total of 118 respondents, 96 males and 22 females, completed and returned the questionnaire in which demographic data and information about the types, sites, and timings of injuries suffered and treatment modalities adopted were elicited. The data were analyzed with independent t-tests. The questionnaire results revealed a significantly higher injury rate for males than for females. The top three injured sites for males were waist (11.1%), ankle joint (10.1%) and finger (9.6%); while for females were ankle joint (13.6%), knee (12.5%) and waist (11.3%). Contusions were the most frequent type of injury: for males (73.5%) and for females (70.6%); followed by tendon inflammation for males (10.7%) and accumulated injuries for females (15.2%). During training and matching periods, the frequency of injuries for males (69.0%) is lower than that for females (81.8%). Traditional Chinese medicine (TCM) with acupuncture and moxibustion was the most common treatment modalities used for males (51.8%) and for females (68.0%); followed by orthopedics: for males (29.5%) and for females (18.0%). The present study contributed as the first effort to reveal the potency of using TCM with acupuncture and moxibustion in wrestling competitions. To prevent possible brain and body injuries in wrestling, safety education, skills and rules, and scoring systems may require further revision. Increased training of wrestling health professionals and advanced research and development of auxiliary training devices and protective equipment for wrestling athletes are also recommended.

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Abstract: Ritual fights are widespread across human populations. However, the evolutionary advantage associated with this behaviour is unclear because these fights rarely provide direct benefits such as territory, resources or mates. Here, the reproductive success of men competing in a traditional ritual fight, Sereer wrestling, was investigated for the first time. Involvement in wrestling had a significant positive effect on men's number of offspring and a marginally significant effect on polygyny, controlling for age, body condition and socio-economic status. These positive effects suggest that being involved in wrestling competition provides prestige, facilitating access to mates and thereby increasing fecundity. However, when women were interviewed on their preference concerning qualities of potential mates, the quality 'being involved in wrestling competition' was poorly ranked. This discrepancy may arise either from deceptive reports or from discordance between parents and daughters in the choice of a husband.

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Abstract: Preferences for specific coaching behaviors of male and female athletes in individual and team sports were measured by the Modification and Revision of the Leadership Scale for Sport. Ss (N=167) were selected from individual (wrestling and men's and women's track and field) and team (men's basketball, baseball, and softball) sports at the University of Wisconsin-La Crosse. There were differences between individual and team sport athletes and between male and female athletes' preferences for specific coaching behaviors (p<.05). Differences were found in Democratic Behavior (DB), Autocratic Behavior (AB), Positive Feedback (PF), and Social Support (SS) (p<.05). No differences were found in Situational Considerations (SC) or Training and Instruction (TI). There were differences between sports teams' preferences for specific coaching behaviors (p<.05). Post hoc comparisons of the 6 subscales tested showed there were significant differences between the preferences of specific sports teams in DB, AB, PF, SC, and SS (p<.05). No differences were found in TI. It is recommended that coaches align their coaching style to meet the needs of their team. Coaches should consider dependence and gender as factors that influence satisfaction and performance of their athletes.

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Abstract: Objective. To classify the perfomance of world class women wrestlers as the frequency and characteristics of their Technical-Tactical Combinations (TTC) with effectiveness in the standing position during the most important competition on the international calendar 2009. Methods. In the TTC were characterized all standing position effectives by a sample of 70 wrestlers, occupants of the top 10 in each of the 7 weight categories convened. Descriptive variables were used 5 of effectiveness, technical group, and characteristics of its phases. Variables were obtained determining the effectiveness, measured the "success rate" achieved by each fighter, all through factor analysis. Later wrestlers were classified by cluster analysis by Ward's method. Results. The most important factor related to get a medal was the execution of legs attacks of with several possible endings started with almost no contact with the opponent, followed by the use of low-risk attacks launched from a firm grip. The wrestlers opted mostly for defense and counter low risk. Most of the competitors who had good results using several and alternative projections also managed to end their attacks. Conclusions. Characterization Model used and the factors of effectiveness in the fight standing obtained provided detailed explanations of the performance characteristics of the best wrestlers in the Senior World Championships 2009. The design of this research can be applied year after year in both freestyle and women's.

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Abstract: This study explores female freestyle wrestlers' experiences related to identity, body consciousness, (hetero)sexuality, and (conventional) femininity, and also the perceptions of females participating in a traditionally male-dominated sport. Data was collected from questionnaires distributed to 47 high school, university, and club female wrestlers and from in-depth interviews with eight university wrestlers. Based on the findings, the researchers suggest that female wrestlers are comfortable with their body; that public perception concerning their sexuality and femininity is not an issue of concern for them; and that they do not experience gender-role conflict nor engage in the female apologetic. The results are of particular interest because they differ from what other studies have concluded regarding the experiences of women in (traditionally male-dominated sports.

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120. Marar, M., N. M. McIlvain, S. K. Fields, and R. D. Comstock. Epidemiology of Concussions Among United States High School Athletes in 20 Sports. *Am. J. Sports Med.*, 2012.
Abstract: BACKGROUND: In the United States (US), an estimated 300,000 sports-related concussions occur annually. Among individuals 15 to 24 years of age, sports are second only to motor vehicle crashes as the leading cause of concussions. PURPOSE: To investigate the epidemiology of concussions in high school athletes by comparing rates and patterns of concussion among 20 sports. STUDY DESIGN: Descriptive epidemiology study. METHODS: Using an Internet-based data collection tool, RIO, certified athletic trainers from a large, nationally disperse sample of US high schools reported athlete exposure and injury data for 20 sports during the 2008-2010 academic years. RESULTS: During the study period, s1-s101936 concussions were reported during 7,780,064 athlete-exposures (AEs) for an overall injury

rate of 2.5 per 10,000 AEs. The injury rate was higher in competition (6.4) than practice (1.1) (rate ratio [RR], 5.7; 95% confidence interval [CI], 5.2-6.3). The majority of concussions resulted from participation in football (47.1%, n = 912), followed by girls' soccer (8.2%, n = 159), boys' wrestling (5.8%, n = 112), and girls' basketball (5.5%, n = 107). Football had the highest concussion rate (6.4), followed by boys' ice hockey (5.4) and boys' lacrosse (4.0). Concussions represented a greater proportion of total injuries among boys' ice hockey (22.2%) than all other sports studied (13.0%) (injury proportion ratio [IPR], 1.7; 95% CI, 1.4-2.1; P < .01). In gender-comparable sports, girls had a higher concussion rate (1.7) than boys (1.0) (RR, 1.7; 95% CI, 1.4-2.0). The most common mechanisms of injury were player-player contact (70.3%) and player-playing surface contact (17.2%). In more than 40% of athletes in sports other than girls' swimming and girls' track, concussion symptoms resolved in 3 days or less. Athletes most commonly returned to play in 1 to 3 weeks (55.3%), with 22.8% returning in less than 1 week and 2.0% returning in less than 1 day. CONCLUSION: Although interest in sports-related concussions is usually focused on full-contact sports like football and ice hockey, concussions occur across a wide variety of high school sports. Concussion rates vary by sport, gender, and type of exposure. An understanding of concussion rates, patterns of injury, and risk factors can drive targeted preventive measures and help reduce the risk for concussion among high school athletes in all sports.

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Abstract: Recently, certain men's sports programs, particularly wrestling, have experienced sharp declines. Critics blame Title IX for these cuts to men's athletic teams, arguing that Title IX makes it economically impractical for universities with tight budgets, to operate men's non-revenue producing sports and provide for women's sports. This paper presents the argument that cuts to men's sports are driven by profit-motivated athletic departments, and not by tight budgets.

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Abstract: Explores the ways in which the dominant forms of gender relations in sport are being contested and transformed.

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Abstract: Underwater weighing (UWW), skinfolds (SKF), and the Futrex-5000 (FTX) were compared by using UWW as the criterion measure of body fat in 30 male and 31 female Caucasians. Estimates of body fat (% fat) were obtained using The Y's Way to Fitness SKF equations and the standard FTX technique with near-infrared interactance (NIR) measured at the biceps, plus six sites for men and five sites for women. SKF correlated significantly higher with UWW than did FTX with UWW for males (0.95 vs 0.80), females (0.88 vs 0.63), and the whole group (0.94 vs 0.81). Fewer subjects (52%) were within +/- 4% of the UWW value using FTX, compared with 87% with SKF. FTX overestimated body fat in lean subjects with less than 8% fat and underestimated it in subjects with greater than 30% fat. Measuring NIR at additional sites did not improve the predicted variance. Partial F-tests indicate that using body mass index, instead of height and weight, in the FTX equation improved body fat prediction for females. Biceps NIR predicted additional variance in body fat beyond height, weight, frame size, and activity level but little variance above that predicted by these four variables plus SKF (2% more in males and less than

1% in females). Thus, SKF give more information and more accurately predict body fat, especially at the extremes of the body fat continuum.

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Abstract: BACKGROUND: Clinical features of anterior cruciate ligament (ACL) injury are important for its prevention, diagnosis and treatment. However, few studies have reported such data, especially in China. The purpose of this study was to describe the clinical characteristics of ACL injury on a large cohort. METHODS: Between 1993 and 2007, a total of 4355 ACL deficient inpatients (612 athletes and 3743 non-athletes) were registered. Data were collected using a special database system. And the distributions of characteristics in different groups were compared and analyzed statistically. RESULTS: All subjects were confirmed with ACL tear during surgery. Statistical analysis revealed that the percentage of females in Athlete Group was significantly higher than that in Non-athlete Group (56.05% vs. 24.95%, P < 0.001). This study also found that sports trauma was the main cause of ACL tears. Soccer, basketball, judo, wrestling and track and field were the five most responsible activities for athletes. The average injury time for athletes was significantly shorter than that for non-athletes (413.3 days vs. 717.5 days, P < 0.001). Three thousand nine hundred and eight cases were ordered ACL reconstruction (76.04% single-bundle, 18.30% double-bundle). Three hundred and forty-five patients (7.92%) were combined with other ligaments injuries, 2667 (61.24%) were found with various grades of cartilage lesions, and 3377 (77.54%) were found with meniscal injury. CONCLUSIONS: Sports trauma was the main cause of ACL tears in China, and reconstruction had become the principal surgical choice. In order to restore knee joint stability and reduce the incidence of cartilage and meniscal injury, patient tailored ACL reconstruction should be suggested at the right moment.

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Abstract: Men's superordinate status sets the stage for them to understand their interests as opposed to those of women. But hierarchies among men complicate this. Through an examination of the narratives by critics of Title IX at the U.S. Secretary of Education's 2002 hearings on Title IX, the authors argue that subordinated groups of men within sports (i.e., those in vulnerable "nonrevenue" sports like wrestling, tennis, and gymnastics) tend to articulate their interests as congruent with men in central, privileged sports (football and basketball). But this articulation of men's interests does not take the form of antiwoman backlash. The critics tell stories of individual men who are victimized by the "unintended consequences" of liberal state policies-stories that rest on an essentialist assumption that men are naturally more interested in sports than are women. The critics' language of bureaucratic victimization of individual men-especially as symbolized by the threatened "walk-on"-may find especially fertile ground among young white males, who face a world destabilized by feminism, gay and lesbian liberation, the civil rights movement, and shifts in the economy.

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Abstract; This essay examines how young girls who participate in combat sports such as wrestling, a traditionally male stronghold, perform continually shifting gender identities that interweave physical traits and behaviors typically coded as masculine or feminine. Drawing upon auto-ethnographic and ethnographic methodologies, I demonstrate how a study of actual lived body experience grounded in a fluid conception of gender is able to remain sensitive to the unique performative gender work being done while providing a critical interrogation of the moments in which the performance of gender is inscribed as nonconformative. I suggest that if we wish to understand the gender dynamics involvedin athletic competition, it is necessary to approach gender as a fluid, rather than solid, concept.

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Abstract: PURPOSE: To examine the association between participation in specific school-sponsored sports and out-of-school sports/physical activities and substance use. METHODS: Subjects consisted of 891 8th grade youth from three schools. Baseline data were collected using the Youth Alcohol & Drug Survey (2000) and following standardized protocols. Logistic regressions were conducted to identify associations between the independent variables of school-sponsored sports, and out-of-school sports/physical activities, and each of the four substance use dependent variables, while controlling for race. Additionally, logistic regressions were run separately for males and females to examine gender differences. RESULTS: Participation in any one of seven specific sports/physical activities was associated with increased substance use for one or both genders, whereas participation in any one of four other specific sports/physical activities was associated with decreased use for one or both genders. Those sports associated with increased use differed for males and females, as did those associated with

decreased use. Females in school-sponsored dance/cheerleading/gymnastics were at decreased risk of alcohol use, whereas those in out-of-school dance/cheerleading/gymnastics, skateboarding or surfing were at increased risk for using at least one substance. Males in out-of-school swimming were at decreased risk of heavy alcohol use, whereas those in school-sponsored football, swimming, wrestling or out-of-school tennis were at increased risk for using at least one substance. CONCLUSIONS: Educators cannot assume all sports/physical activities have a positive relationship with youth substance use. School-sponsored, male-dominated sports appeared to be associated with an increased substance use risk for males, whereas out-of-school, mixed-gender sports appeared to be for females.

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Abstract: Both the IJF (International Judo Federation) and the IOC (International Olympic Committee) regulations require athletes to compete in set weight categories. Competitors are matched by weight divisions, thus players demonstrate relatively low levels of body fat with a high strength to mass ratio, and therefore the purpose of this study was to investigate the relation of body fats, anthropometric factors and physiological functions of Iranian female national judo players. The participants of this study were eight players of Iranian Judo national team (age, 22.5± 2.4yr; weight, 66.01± 6.4kg; height, 165± 6.6cm). The physiological profile was composed of aerobic (maximal test) and anaerobic power (ergo amp test). For anthropometric and body composition profiles, height, weights, body fat percentage, body mass index (BMI), waist hip ratio (WHR) were measured. Correlations were found between weight and body fat percentage and WHR. However negative correlation was found between aerobic and anaerobic power. Also positive correlation was found between BMI and lean body mass. Finding has showed judo players in this study, were almost favorite in terms of aerobics power and weight. The judo players who presenting higher aerobic power present a better performance in high-intensity intermittent activities; judo players with larger circumferences present higher absolute maximal strength, but this relation was not significant when strength was expressed relative to body weight. While these variables do not necessarily predict performance in a sport where technique and tactics are essential elements for success, they may provide some goals for developing judo players.

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Abstract: The aim of this research is to compare the state anxiety level of sportsmen who will take part in World Championship Competition.7 greco-roman aged between 17 and 34 who took part in World Championship in a National Wrestling Team, and 7 freestyle totally 14 men and 7 women joined the research. State Trait Anxiety Iventory (STAI) was used in the survey. In its solution and comment, Paried Samples t tests were used in State Anxiety level of sportsmen before and after competition and One Way Anova test were used sportsmen's state anxiety levels before and after competion in Wrestling National Team according to weight variant. In evoloting datum and finding the calculated volve SPSS (Statistical package for social sciences) was used. Difference of State Anxiety level of sportsman before and after competition in Wrestling National Team was determined meaningful [p<0.05]. The difference of state anxiety level of woman player before and after competition was determined meaningful [p<0.05]. The difference of state anxiety level of woman player before and after competition was determined meaningless [p>0.05]. According to weight variant the difference of state anxiety level of

sportsmen before and after competition in Wrestling National Team was determined meaningless [p>0.05]. To sum up whatever sex, weight of sportsmen are, they need certain anxiety level for performance and concentration. The experience and personal characteristics of sportsmen is important in low or high level of this type of anxiety. In addition to tactic exercise in trainer exercise, they should put emphasis on paining skills and improving skills.

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Abstract: To determine differences in anthropometric, body composition, physiological and neuromuscular markers between elite and amateur female wrestlers; 35 female wrestlers were assigned into 4 groups according to their body mass (light and middle weight) and their competitive level (elite and amateur): Light Weight (between 49-58 kg) in elite (LWE, n=6) and amateur (LWA, n=12) level; and Middle Weight (between 58-67 kg) in elite (MWE, n=7) and amateur (MWA, n=10) level. A binary logistic regression analysis was performed to identify which variables better predict female wrestling successes. Elite female wrestlers were older (8%-10%), had more training experience (27%-29%), fat free mass (FFM) (3%), maximum strength in absolute and allometrically scaled values (13%-33%), maximal muscle power (16%-34%), mean and peak power during an arm-crank Wingate testing in absolute and allometrically scaled values (17%-23%), jumping height (2%-9%) as well as grip (5%-13%) and back isometric strength (10%-13%) compared to amateur wrestlers ($p < 0.05$). When the results of the present research and those of a recent study performed in our laboratory with elite male wrestlers were compared, elite females presented lower ($p < 0.05$) maximum isometric and dynamic strength, muscle power output as well as anaerobic metabolism values even when these data were normalized using allometric methods

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Abstract: BACKGROUND: Acromioclavicular (AC) joint injuries, particularly sprains, are common in athletic populations and may result in significant time lost to injury. However, surprisingly, little is known of the epidemiology of this injury. PURPOSE: To define the incidence of AC joint injuries and to determine the risk factors for injury. STUDY DESIGN: Descriptive epidemiological study. METHODS: A longitudinal cohort study was performed to determine the incidence and characteristics of AC joint injury at the United States Military Academy between 2005 and 2009. All suspected AC joint injuries were reviewed by an independent orthopaedic surgeon using both chart reviews as well as assessments of radiological imaging studies. Injuries were graded according to the modified Rockwood classification system as well as dichotomized into low-grade (Rockwood types I and II) and high-grade (Rockwood types III, IV, V, and VI) injuries for analysis. Injury mechanisms, return-to-play timing, and athlete-exposures were documented and analyzed. chi(2) and Poisson regression analyses were performed, with statistical significance set at $P < .05$. RESULTS: During the study period, 162 new AC joint injuries and 17,606 person-years at risk were documented, for an overall incidence rate of 9.2 per 1000 person-years. The majority of the AC joint injuries were low-grade (145 sprains, 89%) injuries, with 17 high-grade injuries. Overall, male patients experienced a significantly higher incidence rate for AC joint injuries than female patients (incidence rate ratio [IRR], 2.18; 95% confidence interval [CI], 1.21-4.31). An AC joint injury occurred most commonly during athletics (91%). The incidence rate of AC joint injury was significantly higher in intercollegiate athletes than intramural athletics when using athlete-exposure as a measure of person-time at risk (IRR, 2.11; 95% CI, 1.31-3.56). Similarly, the incidence rate of AC injury was significantly higher among male intercollegiate athletes when compared to female athletes (IRR, 3.56; 95% CI, 1.74-8.49) when using athlete-exposure as the denominator. The intercollegiate sports of men's rugby, wrestling, and hockey had the highest incidence rate of AC joint injury. Acromioclavicular injuries resulted in at least 1359 total days lost to injury and an average of 18.4 days lost per athlete. The average time lost to injury for low-grade sprains was 10.4 days compared with high-grade injuries at 63.7 days. Of the patients with high-grade injuries, 71% elected to undergo coracoclavicular/AC reconstructions. The rate of surgical intervention was 19 times higher for high-grade AC joint injuries than for low-grade injuries (IRR, 19.2; 95% CI, 7.64-48.23; $P < .0001$). CONCLUSION: Acromioclavicular separations are relatively common in young athletes. Most injuries occur during contact sports such as rugby, wrestling, and hockey. Male athletes are at greater risk than female athletes. Intercollegiate athletes are at greater risk than intramural athletes. The average time lost to sport due to AC joint injury was 18 days, with low-grade injuries averaging 10 days lost. High-grade injuries averaged 64 days lost to sport, and 71% elected to undergo surgical repair/reconstruction.

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Abstract: Athletic opportunities for females have reached an extent that few women living in the nineteenth century might ever have imagined. For more than two decades the women's 10,000-metre run has been part of the Olympics. Women's wrestling was added at Athens in 2004 and women's boxing competitions will begin at the 2012 London Games. Changing cultural norms, especially those brought forth by 'women's movements' of the 1960s as well as the ensuing amazingly successful athletic

performances that women attained, have been of the utmost importance. In the United States, as the 'New Woman" of the late 1800s began to engage in a modest game of golf or tennis, or take a leisurely bicycle ride, the then dominant theme – strenuous physical activity is inimical to a female's health – that had been articulated in books like Edward Clarke's Sex in Education, Or a Fair Chance for Girls (1873) began to be challenged. Few late nineteenth-century women offered a greater challenge than did 'professional sportswomen' like pedestriennes Ada Anderson and Exilda La Chapelle, competitive cyclist Louise Armiando, and the boxer Hattie Stewart. Whereas their feats were ignored by more elevated publications like Scribner's Magazine and Outing daily newspapers sometimes could be quite complimentary. The coverage given by Sporting Life (considered by many to be the major sports journal of the times) was somewhat mixed. When it came to baseball (the game that 'made men men') Sporting Life was vehemently opposed to any woman engaging in America's 'national pastime'. So was Albert Spalding, co-founder of the lucrative A.G. Spalding Sporting Goods Company. This article sheds new light upon these and other still too little known matters regarding women who 'contested the norm' in late nineteenth-century America.

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Abstract: Examines the old and important institution of wrestling in Black Africa. Looks at the social structure of societies that practiced wrestling. Notes the attitude held toward wrestling by the followers of Islam. Points out the sex and age of the wrestlers, observing that the contestants were boys or adolescents in the majority of cases, and showing how wrestling was related to puberty. Discusses the involvement of women in the sport. Describes the seasons during which wrestling took place, the facilities used, and the setting and nature of ceremonial public matches. Analyzes the social functions served by wrestling for individuals and groups in Black Africa, particularly with respect to prestige, personal rank, and social status.

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Abstract: The purpose of the current study was to investigate elite female (n=21) and male (n=47) combat sports athletes' (n=68; mean age (+/- SD) 21.3 +/- 3.8 years; mean height 177 +/- 10.2 cm) dietary intake between weigh-in and the first bout in Olympic combat sports. The data were collected at 6 separate tournaments and measurements included estimated food records, time for recovery, and body weight (BW) at weigh-in and first match. In total, 33 athletes participated in wrestling and taekwondo, sports with extended recovery times, and 35 athletes in judo and boxing, sports with limited recovery time. The results displayed that despite a mean consumption of food and drinks corresponding to 4.2 kg, the athletes only regained an average of 1.9 kg BW during recovery. Water accounted for 86% of the total intake. For each litre of water consumed, athletes gained 0.57 kg BW, when excluding heavy weight athletes (n=5). Carbohydrate consumption was 5.5 g/kg BW, compared to the recommended 8-10 g/kg BW. In total, one-quarter of the consumed water originated from carbohydrate-rich drinks. Given the average recovery time of 18 (wrestling, taekwondo) versus 8 hours (judo, boxing), the former group consumed twice the amount of water, carbohydrates, protein, and fat as the latter group. In conclusion, a large proportion of the participants did not meet the recovery nutrition guidelines for carbohydrates. Also, the discrepancy between nutrient intake and weight gain points to the physiological barriers to retaining fluids during a limited recovery time after engaging in weight making practices.

149. Pettersson, S. and C. M. Berg. Hydration Status in Elite Wrestlers, Judokas, Boxers, and Taekwondo Athletes on Competition Day. International Journal of Sport Nutrition and Exercise Metabolism, 2014, 24, 267 -275
Abstract: Weight category athletes are known for practicing rapid weight loss before competition weigh-in. After weigh-in, athletes strive to restore euhydration and body mass through food and fluid intake. The aim of the current study was to assess prevalence of hypohydration at competition time among elite athletes' in four different combat sports, and how water intake and timing of official weigh-in were related to hydration status. Participants were 31 taekwondo practitioners and wrestlers who performed evening weigh-in (EWI) the night before competition day and had thus time for rehydration, and 32 boxers and judokas conducting competition day morning weigh-in (MWI). In total, 32% were female. Urine specific gravity (USG) was measured by refractometry on the competition day's first morning urine sample. Hypohydration was defined as USG ≥1.020 and serious hypohydration as USG > 1.030. Water intake was measured by means of dietary records. The prevalence of hypohydration was 89% in the morning of competition day. Serious hypohydration was also prevalent. This was found in over 50% of MWI athletes and in 42% of the EWI group. A higher water intake, from both fluids and solid foods, in the evening before competition day was not associated with a more favorable hydration status the following morning. In conclusion, neither weigh-in close to competition nor evening weigh-in with more time for rehydration seems to prevent hypohydration before competition.

150. Pettersson, S., M. P. Ekstrom, and C. M. Berg. Practices of weight regulation among elite athletes in combat sports: a matter of mental advantage? *J. Athl. Train.* 48 (1) 99-108, 2013.
Abstract: CONTEXT: The combination of extensive weight loss and inadequate nutritional strategies used to lose weight rapidly for competition in weight-category sports may negatively affect athletic performance and health. OBJECTIVE: To explore the reasoning of elite combat-sport athletes about rapid weight loss and regaining of weight before competitions. DESIGN: Qualitative study. SETTING: With grounded theory as a theoretical framework, we employed a cross-examinational approach including interviews, observations, and Internet sources. Sports observations were obtained at competitions and statements by combat-sport athletes were collected on the Internet. PATIENTS OR OTHER PARTICIPANTS: Participants in the interviews were 14 Swedish national team athletes (9 men, 5 women; age range, 18 to 36 years) in 3 Olympic combat sports (wrestling, judo, and taekwondo). DATA COLLECTION AND ANALYSIS: Semistructured interviews with 14 athletes from the Swedish national teams in wrestling, judo, and taekwondo were conducted at a location of each participant's choice. The field observations were conducted at European competitions in these 3 sports. In addition, interviews and statements made by athletes in combat sports were collected on the Internet. RESULTS: Positive aspects of weight regulation other than gaining physical advantage emerged from the data during the analysis: sport identity, mental diversion, and mental advantage. Together and individually, these categories point toward the positive aspects of weight regulation experienced by the athletes. Practicing weight regulation mediates a self-image of being "a real athlete." Weight regulation is also considered mentally important as a part of the precompetition preparation, serving as a coping strategy by creating a feeling of increased focus and commitment. Moreover, a mental advantage relative to one's opponents can be gained through the practice of weight regulation. CONCLUSIONS: Weight regulation has mentally important functions extending beyond the common notion that combat-sport athletes reduce their weight merely to gain a physical edge over their opponents.

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Abstract: Weight reduction in athletes is motivated by optimisation of performance, aesthetic reasons or to achieve a pre-designated weight. Previous research has shown that dietary restraint and short term weight regulation frequently takes place among combat sports athletes such as wrestlers and judokas. The aim of this study was to explore negative experiences related to dietary strategies and weight-making practises used by elite combat sports athletes. Using semi-structured interviews, 14 Swedish national team athletes in wrestling, judo and taekwondo were asked about their dietary intake and their engagement in both long- and short-term weight regulation practises. Content analysis of the transcribed interviews, display a constant struggle regarding nutritional standpoints. Sport demands such as achieving an optimal weight and nutritional intake were considered as central in order for excellent performance. Adhering to these demands was found to be problematic however, primarily because of; (1) negative physiological responses and (2) opposing ideals of a non-sport related nature, such as the importance of the athletes to be healthy and social in their everyday lives

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Abstract: This article addresses two issues in women's participation in sport: 1) the "appropriateness" of participation by girls in predominantly boys sports like wrestling and 2) the concern that due to Title IX and the "forced" inclusion of women's programs, some men's programs are being cut, with serious consequences for the overall program as well.

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In this paper I explore the opportunities that women from Islamic countries have of participating in the Olympic Games and the barriers which they face when taking part in elite sport. Here, it must be taken into account that women's personal situations vary greatly according to - among many other things - the country they live in, their place of residence, their social background and their religious orientation. After giving an overview of participation rates of women and of athletes from Islamic countries at the Olympic Games, I will undertake a more in-depth analysis of the Muslim women taking part in the Beijing Olympics. In addition, trends and participation patterns will be discussed and influential female athletes will be presented.

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Abstract: Discusses the increasing popularity of freestyle wrestling among high school girls. Highlights the sports slow development among women in the United States including the extremely low number of varsity women's wrestling teams and states sanctioned high school girls' wrestling championships. Describes the reluctance of many male coaches to teach high school wrestling to girls.

161. Prouteau, S., A. Pelle, K. Collomp, L. Benhamou, and D. Courteix. Bone density in elite judoists and effects of weight cycling on bone metabolic balance. *Med Sci Sports Exerc* 38:694-700, 2006.
Abstract: PURPOSE: Weight cycling has been shown to exert negative effects on bone metabolism and bone mass, whereas weight-bearing activity is positively associated with bone mineral density (BMD). Bone health in judoists and effects of weight cycling on bone metabolism have not previously been investigated. To examine potential disrupter and stimulators of bone integrity, this study analyzed bone parameters at baseline and the effects of the first weight cycle of the season on bone metabolic status in 48 male and female elite judoists. METHODS: Body composition and lumbar, femoral, and total body BMD were evaluated by dual-energy x-ray absorptiometry. Cortisol, osteocalcin, C-terminal telopeptide of type I collagen (CTx), and bone uncoupling index (UI) were measured in judoists at normal body weight, after weight reduction, and after regaining weight. As a comparison, a control group of moderately active students was included at baseline. Training, menstrual status, and calcium intake were assessed by questionnaires. RESULTS: EUweighted judoists displayed high BMD and an increased rate of bone formation. Precompetitive weight loss averaged 4 +/- 0.3% of body weight and induced an acute rise in cortisol (81%, P < 0.05) and CTx (33%, P < 0.0001), with a metabolic imbalance in favor of bone resorption. A 4 +/- 0.5% weight regain restored a positive UI in favor of bone formation. Metabolic responses were not dependent on gender. BMD was unaltered by weight cycling. CONCLUSIONS: Increased bone formation rate pertaining to judo athletes lent protection from alterations in bone metabolic balance associated with weight cycling. This observation suggests that powerful osteogenic stimuli provided by judo's unique biomechanical environment may help prevent bone loss associated with weight loss.

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Abstract: OBJECTIVE: Despite a preliminary understanding of leptin-skeletal interactions, data in humans are inconsistent and the exact roles of leptin on bone metabolism have not yet been defined. The aim of this study was to examine the possible role of leptin in the regulation of bone metabolism in healthy, physically trained adults. METHODS AND DESIGN: Body composition and bone mass (dual-energy X-ray absorptiometry), anthropometry, serum leptin, insulin, cortisol, osteocalcin, C-terminal telopeptide of type I collagen (CTx) and total plasma proteins were measured in judoists at normal body weight, after weight reduction and after weight regain. Physical training, weight cycling history, menstrual status and nutritional intake using a 7-day food record were assessed. RESULTS: Precompetitive weight loss averaged 4 +/- 0.3% of bodyweight and resulted in a significant decrease in leptin levels of 64% (P < 0.001) and of 31% for insulin (P < 0.0001). CTx and cortisol concentrations rose by 33% (P < 0.0001) and 81% (P < 0.05) respectively. Osteocalcin and total plasma protein remained unaffected by weight loss. A 4 +/- 0.5% weight regain induced a 276% increase in leptin levels (P < 0.001) and an 18% increase in insulin (P < 0.001). CTx and cortisol decreased by 23% (P < 0.0001) and 27% (P < 0.05) respectively. Changes in leptin were significantly correlated with changes in bone resorption marker in response to both weight loss (r = 0.56, P < 0.01) and regain (r = 0.44, P < 0.05). CONCLUSIONS: These findings suggest that leptin is involved in the regulation of bone metabolism in healthy adults and might play a potential role in the prevention of osteoporosis

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Abstract: Introduction: Subtle menstrual disturbances due to metabolic and hormonal alterations have been shown to affect a large proportion of elite female athletes. These alterations include leptin and sex hormones that have been shown to be related to body fat. Aim: We wished to determine if strenuous activity and repeated cycles of weight loss and regain affect leptin and other hormone levels in competitive female wrestlers. Methods: Menstrual history, anthropometry, ovarian ultrasound scan, and hormone tests [leptin, oestradiol (E2), progesterone (P), luteinising hormone (LH), follicle-stimulating hormone (FSH)] were performed in a group of elite female wrestlers (A) and a group of aged-matched sedentary controls (C). Results: Three athletes and no controls were oligomenorrheic (3-10 menses/yr). However the ovarian ultrasound scans were normal for all subjects. There was no significant difference between groups in age, height, or age at menarche. The correlation between body fat (%) and leptin was linear with regression coefficients (r= 0.89 (A) and r=0.83 (C)) being similar in both groups. However, a significant difference was observed between the two groups for leptin levers ($P<0.05$). E2 and P levels were within the normal physiological range in both groups (E2 > 25pg/ml; P > 2.5ng/ml) with P levels being lower for the athletes but the difference was no significant. Serum LH and FSH levels were also within the normal range (>1.5 IU /L). Conclusion: No menstrual abnormalities were observed during the period of the study. Leptin levels were significantly lower for the wrestlers.

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Abstract: BACKGROUND: The proportion of high school sports-related injuries requiring surgery, which pose monetary and time loss burdens, has significantly increased during the last decade. The objective was to investigate the epidemiology of high school athletic injuries requiring surgery. METHODS: High school sports-related injury data were collected for nine sports from 2005 to 2010 from 100 nationally representative US high schools. RESULTS: Athletes sustained 1,380 injuries requiring surgery for a rate of 1.45 injuries per 10,000 athlete exposures. Boys' football had the highest injury rate (2.52) followed by boys' wrestling (1.64). Among gender comparable sports, girls' sports has a higher injury rate (1.20) than boys' (0.94) (rate ratio, 1.28; 95% confidence interval, 1.08-1.51; p=0.004). The rate of injuries was higher in competition (3.23) than practice (0.79) (rate ratio, 4.08; 95% confidence interval, 3.67-4.55; p<0.001) overall and in each sport. Commonly injured body sites were the knee (49.4%), head/face/mouth (9.7%), and shoulder (8.7%). Common diagnoses were complete ligament strain (32.1%) and fracture (26.4%). Nearly half (48.0%) resulted in medical disqualification for the season. CONCLUSIONS: Rates and patterns of injuries requiring surgery differ by sport, type of exposure, and gender. Future studies should identify sport-specific risk factors to drive effective interventions to decrease the incidence and severity of such injuries.

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Abstract: The relationship of intercollegiate athletics and the federal Title IX statute has been the subject

of significant concern and academic inquiry. This article explores the legal and legislative history of Title IX and the statute's impact on intercollegiate athletic programs and practical solutions for compliance. The article is broken into three distinct parts. Part I details a brief history of Title IX congressional, judicial, and regulatory involvement/enforcement over the past 36 years. Part II examines Title IX's application in practice with regard to public institutions and athletics. In Part III, the researchers present recommendations to wrestling programs and other men's teams concerning the economic realities of intercollegiate athletics. Specifically the researchers examine the wrestling community's legal and legislative challenges and explain how colleges' economic decisions and zeal for competitive teams at the "revenue sports" level are at the core of wrestling's dilemma rather than the law itself. The researchers also suggest more constructive solutions for preserving and expanding athletic opportunities for all without cutting men's sports programs. In particular, they argue that instead of attacking Title IX and women's sports, the wrestling community should form alliances with women's teams and their advocates to reverse the reallocation of resources in the college athletics arms race.

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176. Roach, C. J., C. A. Haley, K. L. Cameron, M. Pallis, S. J. Svoboda, and B. D. Owens. The Epidemiology of Medial Collateral Ligament Sprains in Young Athletes 5. *Am. J. Sports Med.*, 2014.
Abstract: BACKGROUND:A medial collateral ligament (MCL) knee sprain is a prevalent injury in athletic populations that may result in significant time lost to injury. Remarkably little is known of the epidemiology of this injury. PURPOSE:To define the incidence of MCL tears and to determine the demographic and athletic risk factors. STUDY DESIGN:Descriptive epidemiological study. METHODS:A longitudinal cohort study was performed to examine the epidemiology of isolated MCL sprains at the United States Military Academy (USMA) between 2005 and 2009. Charts and radiographic studies were reviewed by an independent orthopaedic surgeon to identify all new isolated MCL sprains resulting in time lost to sport and activity that occurred within the study period. Incidence rates (IRs) with 95% confidence intervals (CIs) were calculated per 1000 person-years at risk and by sex, sport, and level of competition. The IR per 1000 athlete-exposures (AEs) was also determined. Incidence rate ratios (IRRs) and respective 95% CIs were calculated between male and female students, intercollegiate and intramural athletes, and male and female intercollegiate athletes involved in selected sports. Chi-square and Poisson regression analyses were used to examine the relationship between the variables of interest and the incidence of MCL sprains, with statistical significance set at $P < .05$. RESULTS:A total of 128 cadets sustained isolated MCL injuries during 17,606 student person-years from 2005 to 2009. This resulted in an IR of approximately 7.3 per 1000 person-years. Of the 128 injuries, 114 were in male athletes (89%) and 14 were in female athletes (11%). Male cadets had a 44% higher IR than did female cadets (7.60 vs 5.36, respectively), although this was not significant ($P = .212$). Of 5820 at-risk intercollegiate athletes, 59 (53 male, 6 female) sustained an isolated MCL sprain during 528,523 (407,475 male, 121,048 female) AEs for an overall IR of 10.14 per 1000 person-years and 0.11 per 1000 AEs. The IRR of MCL sprains of men compared with women involved in intercollegiate athletics was 2.87 (95% CI, 1.24-8.18) per 1000 person-years and 2.62 (95% CI, 1.13-7.47) per 1000 AEs. Of 21,805 at-risk intramural athletes, with quarterly participation, 16 (all male) sustained isolated MCL injuries during 225,683 AEs for an overall IR of 0.07 per 1000 AEs. The IRs of MCL injuries of intercollegiate and intramural athletes did not differ significantly. In intercollegiate sports, wrestling (0.57), judo (0.36), hockey (0.34), and rugby (men's, 0.22; women's, 0.23) had the highest IRs per 1000 AEs. When examining men's intercollegiate athletics, the IRRs of wrestling (13.41; 95% CI, 1.80-595.27) and hockey (8.12; 95% CI, 0.91-384.16) were significantly higher compared with that of lacrosse. Among women's intercollegiate sports as well as intramural sports, there were no significant differences in IRs. A median of 16 days was lost to injury, with 2407 total days lost for all injuries. Grade 1 MCL injuries lost a median of 13.5 days, while higher grade injuries lost a median of 29 days. CONCLUSION:Medial collateral ligament injuries are relatively common in athletic cohorts. The most injurious sports are contact sports such as wrestling, hockey, judo, and rugby. Male athletes are at a greater risk than female athletes. Intercollegiate athletes are at a greater risk than intramural athletes. The average amount of time lost per injury was 23.2 days, with greater time lost with higher grade sprains than grade 1 sprains.

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Abstract: OBJECTIVES: This study sought to determine the incidence of sudden cardiac death (SCD) during Minnesota State High School League (MSHSL) games and practices for high school (HS) athletes (12 to 19 years of age, with most age 15 to 18 years of age) using a uniform statewide pre-participation health screening examination (PPE) form every 3 years on a defined population across 19 academic years. BACKGROUND: Adding electrocardiographic screening is being considered by some to reduce cardiac death rates in athletes, but the death rates in defined groups screened by the current U.S. PPE recommendations are unknown. METHODS: MSHSL participation records were surveyed to determine

the number of unduplicated athletes for 1993/1994 through 2011/2012 academic years, and catastrophic insurance records were used to find cardiac deaths. RESULTS: There were 4 SCDs (2 cross country, 1 basketball, 1 wrestling), all male, during practice or games in 1,666,509 unduplicated athletes participating in >/= 1 sports. The incidence of SCD in athletes screened every 3 years with a history and physical during MSHSL activities is 0.24 per 100,000 athlete-years over 19 years and 0.11 per 100,000 athlete-years over the past decade. CONCLUSIONS: The incidence of SCD in athletes screened every 3 years with standard PPE during MSHSL activities is 0.24 per 100,000 athlete-years in 19 academic years. This incidence is much lower than that observed in studies of Division 1 National Collegiate Athletic Association and Italian athletes (ages 18 to 25 and mean age 24 years, respectively). Our data do not warrant screening HS athletes with electrocardiography to prevent SCD episodes. The decision to screen athletes with electrocardiography should consider age, training intensity, and genetic predisposition.

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Abstract: [1] Introduction: the purpose of this paper, the CAAWS position, in pursuit of gender equity; [2] Facts and fallacies about girls participating on boys' teams: facts and fallacies, an important consideration; [3] Steps in making an informed decision: do your homework, define and discuss your short- and long-term options, make a decision and implement your plan, monitor and evaluate the result; [4] How others have dealt with their decisions: learning from case studies: revising a constitution, creating opportunities for girls' wrestling, complying with the law, anticipating the issue, developing an equitable intramural policy.

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Abstract: OBJECTIVES: The objective of this study was to describe shoulder injuries in a nationally representative sample of high school athletes playing 9 sports. A national estimate of shoulder injuries among high school athletes was subsequently calculated. METHODS: Injury data were collected in 9 sports (boys' football, soccer, basketball, wrestling, and baseball; girls' soccer, volleyball, basketball, and softball) during the 2005-2006 through 2011-2012 academic years from a nationally representative sample of high schools via High School Reporting Information Online. RESULTS: During the 2005-2006 through 2011-2012 academic years, high school athletes in this study sustained 2798 shoulder injuries during 13,002,321 athlete exposures, for an injury rate of 2.15 per 10,000 athlete exposures. This corresponds to a nationally estimated 820,691 injuries during this time period. Rates of injury were higher in competition as compared with practice (rate ratio = 3.17 [95% confidence interval: 2.94-3.41]). The highest rate of injury was in football (4.86) and the lowest in girls' soccer (0.42). The most common types of injury were strain/sprain (37.9%) and dislocation/separation (29.2%). Boys were more likely than girls to sustain their injuries after contact with another person or with the playing surface. Surgical repair was required for 7.9% of the injuries. Time loss from athletic participation varied among sports, with 40.7% of athletes returning within 1 week, whereas 8.2% were medically disqualified for their season/career. CONCLUSIONS: High school shoulder injury rates and patterns varied by sport and gender. Prospective epidemiologic surveillance is warranted to discern trends and patterns to develop evidence-based interventions to prevent shoulder injuries.

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Abstract: ***Introduction.*** The aim of this study was to diagnose the level of emotional intelligence and sense of efficiency among the occupational group of coaches and instructors in wrestling. ***Material and methods.*** The study involved 27 participants of a training course for coaches and instructors in training (25 men and 2 women). The basic methods of research involved the Emotional Intelligence Questionnaire INTE and the GSES scale for measurement of the sense of efficacy. Their use allowed us to diagnose the average level of emotional intelligence and the sense of self-efficacy. ***Results***. Coaches and instructors are characterized by average level of emotional intelligence and the sense of self-efficacy. First class coaches are characterized by significantly higher levels of emotional intelligence, and the belonging to the group of trainers has no influence on the sense of efficacy. ***Conclusions***. The results of the study can provide guidance to create/modify training programs for sports coaches. Developing mental toughness and improving emotional intelligence should occupy a special place in the training process wrestlers.

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Abstract: The main purposes of this study were to describe the cardiorespiratory fitness and lower limbs maximal muscle power of a selected group of Olympic Italian male (M) and female (F) judokas. Eleven subjects (6 M, 5 F) underwent 3 different tests. The VO(2)max and ventilatory threshold (VT; V-slope method) were assessed during a graded maximal treadmill test. Lower limbs muscle peak power (PP) and mean power (MP) were determined during a 30-second Wingate test (WIN). Post-WIN blood lactate peak was also measured. Subjects were tested also during a 5-minute combat test (CT), during which blood lactate and heart rate (HR) were monitored. VO(2)max (mean +/- SD) was 47.3 +/- 10.9 and 52.9 +/- 4.4 ml x kg(-1) x min(-1) for M and F judokas, respectively. The VT corresponded to 80.8% (M) and 86.5% (F) of VO(2)max. Both PP and MP, measured during the WIN, were significantly higher ($p < 0.05$) in M than in F judokas (PP: 12.1 +/- 2.4 vs. 9.5 +/- 1.1 W x kg(-1); MP: 5.4 +/- 1.1 W x kg(-1); F: 4.3 +/- 0.5 W x kg(-1)). Post WIN blood lactate peak was 6.9 +/- 2.8 mmol x l(-1) and 6.1 +/- 1.8 mmol x l(-1) for M and F judokas, respectively (not significant). During the CT blood lactate peak was 9.9 +/- 3.0 mmol x l(-1) (M) and 9.2 +/- 2.0 mmol x l(-1) (F); these values being significantly higher than those obtained after the WIN ($p < 0.05$). In conclusion, Italian Olympic judokas showed high levels of muscle power but accompanied by a moderate engagement of the aerobic metabolic pathway, which is well in accordance with the characteristics of judo. Having these results in top-level athletes may represent a useful contribution to the work of coaches and trainers in optimizing training programs for the achievement of the best performance of the judoka.

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Abstract: OBJECTIVE: To determine baseline symptom and neurocognitive norms for non-concussed and previously concussed varsity athletes using the sport concussion assessment tool (SCAT). STUDY DESIGN: Descriptive cohort study. SETTING: University of Calgary. SUBJECTS: 260 male and female university football, ice hockey and wrestling athletes over three seasons (2005-7). METHODS: A baseline SCAT was completed during preseason medical evaluation. Subjects were grouped as follows: all participants, men, women, never concussed (NC) and previously concussed (PC). MAIN RESULTS: The mean age of participants was 20.5 years (range 17-32). In total, 41.2% of all athletes had a total post-concussion

symptom scale (PCSS) score of 0. The mean baseline PCSS scores were as follows: all participants 4.29; men 3.52; women 6.39; NC 3.75 and PC 5.25. The five most frequently reported symptoms for all athletes were fatigue/low energy (37% of subjects), drowsiness (23%), neck pain (20%), difficulty concentrating (18%) and difficulty remembering (18%). The median immediate recall score was 5/5 for all groups. Women scored a median of 5/5 on delayed recall, whereas all remaining groups scored a median of 4/5. Months in reverse order were successfully completed by 91.6% of subjects. All participants, women and PC scored a median of 6 on reverse digits, whereas men and NC scored a median of 5. CONCLUSIONS: The mean SCAT baseline PCSS score was approximately 5, although just under half of the athletes scored 0. Female athletes scored better on tests of neurocognitive function. PC athletes scored better than NC athletes on all neurocognitive tests except delayed five-word recall.

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Abstract: The article studied female wrestles of Shaanxi province by using the psychological stress scale of athlete, the results show that, compared with common wrestlers, elite female wrestlers have high marks in "sport injury, defeat in competition, pressure of inner and outer, in which notable differences exist in sport injury, pressure of inner and outer. On the basis of test, to solve the problem of psychological stress about the inner and outer pressure and too much thinking the results before competitions, the author makes broad psychological consultation and psychological training. Practice shows that psychological consultation and psychological training help to accomplish their competitive task and enhance ability of coping psychological stress.

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experienced enhancement of skills and bodily structure. This was done by means of a qualitative interview of eight Norwegian elite wrestlers comprising four females and four males in the age group 17 to 32 years. Since the wrestlers practice in a mixed gender setting the males were included as being part of the interaction. The study revealed different ways in which the female wrestlers were doing femininity which also seemed to be contextually bound. This was particularly related to strength training and overall performance as wrestlers. The seniors had apparently accepted strenuous strength training and big muscles, whereas the juniors were 'holding back' giving priority to the 'private body'. The seniors had accepted the 'athletic body' and muscularity with its social costs.

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Abstract: The article discusses a court case which involved the Pennsylvania Wrestling Club Inc. and its intervention in a lawsuit filed by a seventh grade girl bidding to take part in a boy's wrestling team in the Line Mountain School District. The club argued that its intervention is the result of an "indispensable interest in the litigation." A federal judge ruled that the club's main goal was to be in the middle of a movement to establish a women's wrestling program statewide.

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organisms. What kind of woman's equality is it which makes „hoydens" out of women? It is impossible to cover the latescent femininity of athletes with colourful, yet scarce outfits. It is beyond understanding why creators of Olympic Games' programmes should contribute to the psychophysical degradation of a human being, and recently their target should be a woman? A considerable part of these programmes may be abridged to a saying: „Women for sport". Huge financial means turn Olympic sport into a profitable spectacle for the organizers, actors and people greedy of games, who have very little to do with the Olympic idea of Pierre de Coubertin. His long-time and well functioning idea has been limited to the World Games of non Olympic sport disciplines. The dehumanisation of the contemporary Olympic sport has caused man's health and sometimes even life to become just a commodity. In view of this, questions are raised: 1. Is the current form of the Olympic Games suitable for women? 2. Is the accepted equality of men and women in it the best solution? The issue raised is complex and vast and rarely has it been the subject of discussion and publication, and the more so, of research. I shall try to provide answers to some of the questions, basing on results of a test conducted on approx. 1000 students of both sexes from three PhE Academies in Poland.

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Abstract: BACKGROUND: There is minimal published information regarding the epidemiology of simple elbow dislocations. The purpose of this study was to report the estimated incidence of elbow dislocations in the United States, with use of the National Electronic Injury Surveillance System (NEISS) database. METHODS: The NEISS database includes 102 hospitals representing a random sampling of all patients presenting to U.S. emergency departments. The database was queried for elbow dislocation events. NEISS data for 2002 through 2006 were used for raw data and weighted injury counts. Incidence rates with 95% confidence intervals (95% CI) were calculated by age group and sex, with use of U.S. census data. RESULTS: One thousand and sixty-six elbow dislocations were identified, representing a weighted estimate of 36,751 acute dislocations nationwide. A calculated incidence of 5.21 dislocations per 100,000 person-years (95% CI, 4.74 to 5.68) was noted. The highest incidence of elbow dislocations (43.5%) occurred in those who were ten to nineteen years old (6.87 per 100,000 person-years; 95% CI, 5.97 to 7.76). The incidence rate ratio for the comparison of dislocations in males with those in females was 1.02 (5.26 per 100,000 for males and 5.16 per 100,000 for females). In patients ten years or older, 474 injuries (44.5% of total dislocations) were sustained in sports. Males dislocated elbows in football, wrestling, and basketball. Females sustained elbow dislocations most frequently in gymnastics and skating activities. CONCLUSIONS: The estimated incidence of elbow dislocations in the U.S. population is 5.21 per 100,000 person-years, with use of a national database. Adolescent males are at highest risk for dislocation. Nearly half of acute elbow dislocations occurred in sports, with males at highest risk with football, and females at risk with gymnastics and skating activities.

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Abstract: Relationships between the postexercise values of blood lactate concentration, pH, oxygen uptake, heart rate, power output on the one hand, and the pre- and postexercise blood cortisol concentrations on the other, were studied in 74 male and 40 female athletes (wrestlers and senior and junior rowers), performing graded exercise of increasing intensity. The senior rowers, junior rowers and wrestlers had different exercise protocols. The senior rowers of both sexes had significantly higher rest concentrations of serum cortisol than the junior athletes. A significant correlation between postexercise lactate concentrations and pre-exercise cortisol concentrations was found in all the male groups (" common" r = 0.515, P less than 0.001), but not in the female ones (r = 0.162). It was concluded that the pre-exercise cortisol concentrations might condition anaerobic-glycolytic metabolism in physical exercise.

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Abstract: The association of 5-HTTLPR gene polymorthism and aggression was studied in control group of males and females and in the athletes. The sport activities were found to decrease the aggression: the effect persist for the synchronized swimmers and for the wrestlers. Control group of males were characterized by higher aggression scores (Assault, Negativism, Suspicion and Verbal aggression scales of Buss-Durkee Hostility Inventory) compared to females. For all female-subjects irrespective of sport activities and age, the association between the variants of 5-HTTLPR gene and the Indirect Aggression and Negativism scores were found: carries of SS genotype has higher scores on Indirect Aggression and lower scores on Negativism. For the males the association was different: The averaged Hostility scores were higher for the carriers of LL-genotype. The brain processes, presumably underlying the association between aggression and 5-HTLPR gene, were studied in male control group. The increased MMN component of ERP, which responsible for the automatic change detection, and decreased P3a component, related to involuntary attention and cognitive control were found in LL-carries. It might be considered as a sign that SS-carries process the information with more cognitive resources. Probably they perceive the stimulus as more complicated, which lead to activation the additional resources of frontal cortex. It might be also suggested that the carries of SS-genotype tend to deeper processing of the incoming information. Probably, it is this more "serious" analysis of external information, which underlies the rejection of impulsive aggressive actions.

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Abstract: Background In the last 20 years female participation in sports increased due the passage of particular act. According to this law the discrimination against female athletes in sports was relatively decreased. Aim of this study was the menstrual situations of Turkish female team athletes and individual athletes in premenstrual syndrome period. Material & Methods: After a New Scale for Premenstrual Syndrome was conducted to the sample of the study, some significant results were gained. The menstrual situations of individual female athletes who deal with wrestling, judo, and taekwondo branches were assessed. In this study team athletes were 120 females and individual athletes were 146 females in total 266 females. The survey was conducted to these athletes. Frequency distributions were noticed according to gathered data for two or more variables and chi square and independent sample t test were applied to some of the items. Significance level was set at 5%. Results: It is seen that depressive affectivity, anxiety, exhaustion, anger, pain, appetite changes and timidity which are the

conditions of premenstrual syndrome differed in a significant way in team athletes than in individual athletes. There is significant difference between the branches and the effect of participation to competition to performance in menstrual period. Conclusions: The responsibility of competitive in team sports was shared by all team athletes. In individual sports, athletes must cope with psychological and physical stresses of competitive by herself. Therefore, the findings of this study suggest that individual athletes maybe confronted with the psychological stresses during match and training.

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237. Tian Y, He Z, Zhao J, Tao D, Xu K, Midgley A, McNaughton L. An 8-Year Longitudinal Study of Overreaching in 114 Elite Female Chinese Wrestlers. J Athl Train. 2014 Oct 20. [Epub ahead of print]
Abstract Context: Successful training involves structured overload but must avoid the combination of excessive overload and inadequate recovery. Objective: The aim of this study was to determine the incidence of functional overreaching (FOR), nonfunctional overreaching (NFOR), and overtraining syndrome in elite female wrestlers during their normal training and competition schedules and to explore the utility of blood markers for the early detection of overreaching. Classification of FOR, NFOR, and overtraining syndrome was based on the European Congress of Sports Medicine position statement. Design : Case series. Setting : China Institute of Sport Science. Patients or Other Participants : Over an 8-year period, 114 wrestlers from the women's Asian wrestling team were monitored to help identify if and when they experienced FOR, NFOR, or overtraining syndrome. Main Outcome Measure(s) : Creatine kinase, hemoglobin, testosterone, and cortisol were measured throughout the period to identify whether wrestlers were outside the reference intervals (constructed from normal recovery data) during periods of overreaching and not overreaching. Results : Among the 114 athletes, there were 13 (3.6%) instances of FOR, 23 (6.4%) instances of NFOR, and 2 (0.6%) instances of overtraining syndrome. The diagnostic sensitivity for FOR was 38%, 15%, 45%, and 18% for creatine kinase, hemoglobin, testosterone, and cortisol, respectively. The diagnostic sensitivity for NFOR was 29%, 33%, 26%, and 35% for creatine kinase, hemoglobin, testosterone, and cortisol, respectively. Specificity was 79%, 88%, 90%, and 82% for creatine kinase, hemoglobin, testosterone, and cortisol, respectively. Post hoc analysis showed that no mean differences in creatine kinase (F = 0.5, P = .47), hemoglobin (F = 3.8, P = .052), testosterone (F = 0.2, P = .62), or cortisol (F = 0.04, P = .85) between monitoring periods when wrestlers were and were not

diagnosed with FOR and NFOR. Conclusions : Coaches and sports scientists should not use single blood variable as markers of overreaching in elite female wrestlers.

238. Tian, Y.; He, Z. 2013 Monitoring overtraining in women wrestlers International Journal of Wrestling Science 3:2 51-57
As athletes strive to improve their performance, they invariably increase the frequency, volume and intensity of training. In doing so, they invariably experience fatigue. This fatigue ranges from short-term "normal" fatigue when recovery is achieved within hours or days, to longer-lasting "abnormal" fatigue where recovery is prolonged [29]. This latter aspect of recovery can be divided into a number of distinct duration phases, that include functional overreaching (FOR), non-functional overreaching (NFOR) and the overtraining syndrome (OTS) [30]. Recovery accompanying the FOR state typically occurs within two weeks, is a vital part of training and often utilized by athletes during a typical training cycle prior to a period of recovery. It is further hypothesized that FOR stimulates a super-compensation effect and, as a result, increases performance to a level higher than previously attained [7]. With regard to NFOR, however, recovery may take several weeks (i.e., > 3 wks), eventually leading to the OTS [21]. Subsequently, OTS may last months or years, during which time athletes are unable to sustain normal training and have significant decrements in performance, combined with physical and psychological health problems [30].For both athletes and coaches alike, monitoring pre-competition training is important for determining, and hence, trying to avoid the occurrence of NFOR or OTS. Female wrestling has grown in popularity since being accepted into the Olympic Games in 2004. According to the international wrestling rules, wrestling is a dynamic, high-intensity intermittent sport that requires complex skills and tactical excellence for success. A wrestling athlete has needs to have a high anaerobic capacity as indicated by very high blood lactate values (up to 20 mmol·L-1) after a match [15]. Typically, medalists at a tournament perform five to seven matches during a single–day, with each match having three 2-minute rounds with a 30-second rest between rounds. Consequently, to be successful in international competitions, wrestling athletes need a high level of physical fitness [34]. Wrestling as a sport demands several specific characteristics, including maximal strength, aerobic endurance, and anaerobic capabilities to achieve success in competition. The incidence of overtraining in different sports has shown wide variation which seems due to the duration of assessment. Lower incidences of ~10% to 20%were derived from single training seasons or cycles[22, 25], whereas higher incidences of around 60% have been observed in studies that assessed entire athletic careers [23]. This suggests that the incidence is positively associated with the duration of participation[20].With respect to young athletes, approximately one-third of young athletes have experienced NFOR or the OTS, and the incidence was significantly higher in individual sports, low–physical demand sports, females, and at the elite level [20].To the best of our knowledge, no studies have investigated overreaching in elite wrestlers. The main aim of the present study was to report the incidence of FOR, NFOR, and the OTS in elite female wrestlers, using a retrospective longitudinal 8-yr observation of the Chinese women's wrestling team during their normal training and competition schedules. A second aim was to explore the utility of markers for the early detection of overreaching.

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242. Torres-Bonete, M. D.; López-Gullón, J. M.; de la Cruz-Sánchez, E.; Izquierdo, M.; Pallarés, J. G. 2012
Female Olympic wrestling: Physical fitness markers and gender differences 17th Annual Congress of the European College of Sport Science (ECSS), Bruges, 4. -7. July 2012 617
Abstract: Although female wrestling has received minor research attention, in male participants few studies examined differences in physical fitness and anthropometrical markers between successful and less successful wrestlers (García-Pallarés et al., 2010). These data have been of great importance for optimizing training programs, talent selection and weight cutting strategies for Greco-Roman and Freestyle male wrestlers (Horswill, 1992). Therefore, the first aim of this study was to investigate which anthropometric, physiological and neuromuscular factors are different between elite and amateur female wrestlers. Our second aim was to compare physical fitness markers between these elite female and those of a recent study conducted in our laboratory with elite male wrestlers. Methods Thirty five female wrestlers were assigned into 4 groups according to their body mass (light and middle weight) and their competitive level (elite and amateur): Light Weight (49-58 kg) in elite (LWE, n=6) and amateur (LWA, n=12) level; and Middle Weight (58-67 kg) in elite (MWE, n=7) and amateur (MWA, n=10) level. A binary logistic regression analysis was performed to identify which variables better predict female

wrestling successes. Results Elite female wrestlers were older (8%-10%), had more training experience (27%-29%), fat free mass (FFM) (3%), maximum strength in absolute and allometrically scaled values (13%-33%), maximal muscle power (16%-34%), anaerobic capacity and power in absolute and allometrically scaled values (17%-23%) compared to amateur wrestlers ($p<0.05$). Discussion Based on the logistic regression analysis, FFM and 1RM strength were the most important factors of successful female wrestling performance. These results may suggest that the higher absolute and normalized maximum strength, muscle power and anaerobic metabolism, although explained in part by the differences in FFM, will give elite female wrestlers a clear advantage during Olympic wrestling compared to amateurs. When these results and those of a recent study performed in our laboratory with elite male wrestlers (García-Pallarés et al., 2010) were compared, elite females presented lower ($p<0.05$) physiological and neuromuscular values even when these data were normalized using allometric methods. In addition to differences in the FFM, other sex distinctions such as hormonal, enzymatic and/or neural activations patterns could be related to the physical fitness performance differences between genders (Weber et al., 2006). References García-Pallarés J, López-Gullón JM, Muriel X, Díaz A, Izquierdo M. (2011). Eur J Appl Physiol, 111, 1747-1758. Horswill CA. (1992).Sports Med, 14: 114-143. Weber CL, Chia M, Inbar O. (2006). Med Sci Sports Exerc 38, 129-137.

243. Torres-Bonete, M., Pallarés, J.G., López-Gullón, J.M., De la Cruz-Sánchez, E. 2012 Analysis of the Digit Ratio Association With Success In Olympic Wrestling. 17th Annual Congress of the European College of Sport Science (ECSS), Bruges, 4. -7. July 2012 617
Introduction: The second-to-fourth digit ratio (2D:4D) has been reported to be negatively correlated with sport performance in male and female athletes across a variety of endurance and team sports (Manning and Taylor, 2001), even when physical factors and effort, cognitive, and personality variables are controlled (Testern and Campbella, 2001). Therefore, the aim of this study was to analyse the contribution of the 2D:4D to success in Olympic wrestling. Methods A total of 180 wrestlers that took part in the 2011 Spanish Wrestling Championship, in one of the three Olympic wrestling styles, participated in the study: Greco-Roman Male (GRM), n = 60; Freestyle Male (FSM), n =72; and Freestyle Female (FSF), n = 48. According to the tournament results, two different competitive levels (i.e., successful and nonsuccessful) were established in each wrestling style and weight category for subsequent comparisons. Successful groups of wrestlers were formed from the four medal winners (i.e., 1st, 2nd, and the two 3rd classified) in each of the 7 weight categories for both male styles (GRM and FSM) and the female style (FSF). Prior to competition, wrestlers were interviewed about their years of training experience and their hands were scanned. 2D:4D was calculated using computer-assisted image analysis (Allaway et al., 2009). A multinomial logistic regression coefficient to calculate odd ratios (OR's) and 95% confidence intervals (CI's) were established to determine the contribution of 2D:4D and training experience to success in Olympic wrestling. Results We found differences between genders and we could determine that 2D:4D was greater in men than women in both hands (right hand t-test $p=0.009$, $t=-2.63$; left hand t-test $p=0.015$, $t=-2.45$). There were no differences between successful and non-successful wrestlers in 2D:4D in any wrestling style (GRS, FSM and FSF) ($p=0.87$ for right hand, and $p=0.46$ for left hand), whereas having high training experience supposed an increase up to 4.38 (1.70 – 11.01) times more likely to be successful. Discussion As a possible marker of prenatal testosterone exposure (which could be a key factor in strength development), 2D:4D has been proposed as an indirect measure which can discriminate an exceptional and talented genotype for sport participation(Testern and Campbella, 2001). However, the main finding of the present study was that 2D:4D is not a valid assessment to discriminate successful and non-successful wrestlers, while training experience is a good predictor of competition prowess in that kind of highly trained athletes. References Manning JT, Taylor RP. (2001). Evol Hum Behav, 22, 61-69. Tester N, Campbell A. (2007). J Pers, 75, 663-677. Allaway HC, Bloski TG, Pierson RA, Lujan ME. (2009). Am J Hum Biol, 21, 365-370.

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Methods: A detailed questionnaire, which included questions regarding training and/or physical activity patterns, menstrual history, oral contraceptive use, weight history, eating patterns, dietary history, and the Body Dissatisfaction (BD) and Drive for Thinness (DT) subscales of the Eating Disorder Inventory (EDI), was prepared. The questionnaire was administered to the total population of female elite athletes in Norway representing the national teams at the junior or senior level, 13-39 yr of age (N = 938) and nonathlete controls in the same age group (N = 900). After exclusion, a total of 669 athletes (88%) and 607 controls (70%) completed the questionnaire satisfactorily.
Results: A higher percentage of controls (69.2%) than athletes (60.4%) was classified as being at risk of the Triad ($P < 0.01$). A higher percentage of controls than athletes reported use of pathogenic weight-control methods and had high BD subscale scores ($P < 0.001$). However, more athletes reported menstrual dysfunction and stress fractures compared with controls ($P < 0.05$). A higher percentage of both athletes competing in leanness sports (70.1%) and the nonathlete control group (69.2%) was classified as being at risk of the Triad compared with athletes competing in nonleanness sports (55.3%) ($P < 0.001$). Furthermore, a higher percentage of athletes competing in aesthetic sports (66.4%) than ball game sports (52.6%) was classified as being at risk of the Triad ($P < 0.001$).

Conclusions: More athletes competing in leanness sports and more nonathlete controls were classified as being at risk of the Triad compared with athletes competing in nonleanness sports.

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Abstract: The purpose of the present study was to investigate the relationship between body composition and anaerobic performance in young elite wrestlers. Method: Eight female (age = 16.2 ± 1.1 yrs) and 8 male (age = 17.3 ± 0.9 yrs) wrestlers from the Turkish cadet and junior national team participated in this study. Fat free mass (FFM) and percent fat mass (%FM) were carried out through electric bioimpedance. Anaerobic performance was assessed by the Wingate test (load was calculated as 0.090 kg x kg-1 body mass). FFM was greater in male wrestlers [65.4 ± 12.3 (kg)] than female wrestlers (45.1 ± 4.6 (kg) $p < 0.01$). %FM was lower in male wrestlers (9.7 ± 6.3) than female wrestlers (18.5 ± 2.8; $p < 0.01$). Peak power was significantly higher in male wrestlers than female wrestlers (8.5 ± 1.0 W·kg-1 vs. 6.8 ± 0.6 W·kg-1; $p < 0.01$). Mean power was significantly correlated with FFM in both genders ($r = 0.73$ $p < 0.05$ in female; $r= 0.90$ $p < 0.05$ in male). No relationship was obtained between anaerobic parameters and %FM. In conclusion, our result demonstrated no association between anaerobic parameters and %FM. Wrestlers and their coaches should take into account FFM rather than %FM for higher anaerobic performance.

253. Veliz, P., C. Boyd, and S. E. McCabe. Adolescent athletic participation and nonmedical Adderall use: an exploratory analysis of a performance-enhancing drug 36. *J. Stud. Alcohol Drugs* 74:714-719, 2013.
Abstract: OBJECTIVE: A primary motive for adolescents and young adults to nonmedically use prescription stimulants is to help them study. Adolescents and young adults are using prescription stimulants, such as Adderall (amphetamine aspartate, amphetamine sulfate, dextroamphetamine saccharate, dextroamphetamine sulfate), as performance enhancers in certain social domains, including academics and sports. The purpose of this exploratory study was to examine the nonmedical use of Adderall (a commonly prescribed stimulant used nonmedically) among adolescents who participate in competitive sports. METHOD: The Monitoring the Future survey for 2010 and 2011, a representative sample of 8th- and 10th-grade students, surveyed involvement in competitive sports and nonmedical Adderall use among 21,137 adolescents. Past-year nonmedical use of Adderall served as the main outcome measure. Logistic regression analyses were run to examine whether sports participation in general and involvement in different types of competitive sports participation were associated with past-year nonmedical use of Adderall among males and females. RESULTS: The odds of past-year nonmedical use of Adderall among males were higher for male respondents who participated in lacrosse (adjusted odds ratio [AOR] = 2.52, 95% CI [1.20, 5.29]) and wrestling (AOR = 1.74, 95% CI [1.01, 2.98]). However, no particular sport among females was found to be associated with past-year nonmedical use of Adderall. CONCLUSIONS: Certain extracurricular activities, such as high-contact sports, may influence male participants to misuse prescription stimulants as performance enhancers either on or off the playing field.

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Abstract: Attempts to unify and mobilize the U.S. collegiate wrestling community to "save" it from decline frames Title IX as the main "problem" to overcome. The logic of a community of identification at work in this strategy limits the interventions that can be made for wrestling while enabling corporate men's sport to remain the hegemonic form of U.S. collegiate athletics. We explicate and critique the varied articulations of wrestling as a community of identification following Helstein's (2005) call to deconstruct assumptions of unified sporting communities and to consider communities of articulation. We illustrate how communities of identification necessarily fail and how moving toward communities of articulation offers an intervention that enables a reframing of the relationship between Title IX and collegiate wrestling that could motivate meaningful change.

255. Walton, T. (2007). Grappling with Dominant Ideologies: Fox Network Weighs in on Girl/Boy Wrestling. Journal of Popular Culture, 40(4), 714-727.
Abstract: The article focuses on the issue on male superiority in sports in the U.S. Here, sport studies scholar Michael Messner aptly argues that organized sports have come to serve as a major institutional means for bolstering a challenged ideology of male superiority in the twentieth century. According to the article, women's participation in sport throughout time has been culturally ideologically contested terrain with women claiming space as appropriate for them in uneven measure. Sports like wrestling and football remain representative of some of the last footholds in sport as all-male domains.

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Abstract: The cause of rotator cuff injuries in the young athlete has been described as an overuse injury related to internal impingement. Abduction coupled with external rotation is believed to impinge on the rotator cuff, specifically the supraspinatus, and lead to undersurface tears that can progress to full-thickness tears. This impingement is believed to be worsened with increased range of motion and instability in overhead athletes. A retrospective review of seven patients diagnosed with rotator cuff injuries was performed to better understand this shoulder injury pattern. The type of sport played, a history of trauma, diagnosis, treatment method, and outcome were noted. Six patients were male and one was a female. Baseball was the primary sport for four patients, basketball for one, gymnastics for one, and wrestling for one. The following injury patterns were observed: two patients tore their subscapularis tendon, two sustained avulsion fractures of their lesser tuberosity, one tore his rotator interval, one tore his supraspinatus, and one avulsed his greater tuberosity. Only four patients recalled a specific traumatic event. Three patients were treated with arthroscopic rotator cuff repair, three with miniopen repair, and one was treated with rehabilitation. Six of the seven patients returned to their preinjury level of sport after treatment. Rotator cuff tears are rare in the adolescent age group. The injury patterns suggest that acute trauma likely accounts for many rotator cuff tears and their equivalents in the young patient. Adolescents with rotator cuff tears reliably return to sports after treatment. The possibility of rotator cuff tears in skeletally immature athletes should be considered. The prognosis is very good once this injury is identified and treated.

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Abstract: Written for doctors, physician Stephan K. Westmann examines the "athletic emancipation" and participation of women in sports, games and exercises and their physical capacity or potential to do so. Points out how women's success in sport "is only limited by the difference in physique which nature has ordained between man and woman." Describes which sports are "suitable" for women. These include swimming, lawn tennis, croquet but not wrestling, boxing and Rugby football. Chap. 1 discusses female anatomy, appropriate physical training, sporting capabilities, and suitability for physical exercises. Chap. 2 deals with female anatomy with special emphasis on female reproductive organs. Chap 3 discusses menstruation, reproduction and its attendant functions. Chap 4 considers specific and suitable activities, sports and games for girls and women. Chap 5 looks at eurhythmics and gymnastics. Chap. 6 has a short history of physical culture for women and discusses psychological factors, problem of fatigue, increasing number of women with small pelvises and the "law of maternity" ie. Women must limit their activity in order not to injure their reproductive capacity.

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Abstract: PURPOSE: Four cross-sectional studies have reported that percent body fat (%BF) measured by dual-energy x-ray absorptiometry (DXA) is significantly higher compared with values obtained with air displacement plethysmography (ADP) using the Bod Pod(R) in normal-weight individuals. This study was performed to confirm these findings in an overweight population and to assess whether DXA and ADP detected similar changes in body composition after moderate weight loss. METHODS: Twelve women (42 +/- 8 yr) and 10 men (40 +/- 11 yr) had their %BF, fat mass (FM), and fat-free mass (FFM) measured using DXA and ADP before and after an 8-wk weight-loss program involving moderate energy restriction and exercise. RESULTS: Body weight decreased significantly in women (-4.3 +/- 3.4 kg) and men (-4.7 +/-

3.1 kg). There were significant method (ADP vs DXA) and time (pre and post) effects but no method by time or gender interactions. Methods were significantly different in estimating %BF, FM, and FFM with ADP estimates of %BF and FM being lower and estimates of FFM higher than corresponding DXA values (P = 0.000). There were significant correlations accounting for a high degree of the shared variance between DXA and ADP (r = 0.98 to 0.99) for %BF, FM, and FFM and lower correlations for the changes in %BF (r = 0.66), FM (r = 0.86), and FFM (r = 0.34). In response to weight loss, the mean changes in %BF, FM, and FFM were not significantly different between methods (P > 0.05). CONCLUSION: Both DXA and ADP measure changes in body composition after small to moderate weight loss to the same extent and with similar sensitivity.

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Abstract: Consistent with other sciences (e.g., Kass-Simon, 1993; Tang, 2006), the field of kinesiology has been called a "masculine domain," which has an institutionalized culture biased against women (Brackenridge, Mutrie, & Choi, 2005). This paper represents the second part of a larger project that examined the life histories of eight trailblazing women in sport and exercise psychology. In the first paper (Krane & Whaley, 2010) we made the case for re-placing these women into the history of sport psychology, based on their contributions to research, teaching, and service to the field. In this study, we explored the experiences of these women with regard to the challenges they faced and how they overcame or coped with them. The specific themes emerging from the data analysis were the trailblazers' graduate school and early professional experiences, general campus climates, departmental politics, gender or discipline, coping and the cost of caring, and giving back and moving forward.

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Abstract: The article presents a paper which provides a comprehensive analysis on the techniques and training regime of 72kg-wrestler Wang Xu. It states that the wrestler needs repositioning through innovative tactics and techniques as the 2004 rules were modified by FILA. Wang Xu is the winner of the first gold medal in wrestling for China during the 2004 Olympics, and a main wrestler for 2008 Olympics in Chinese Wrestling Team.

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Abstract: OBJECTIVE: Athletes undergoing weight reduction are recognised as being more prone to infection. Few studies exist for athletes on the weight reduction-mediated changes in neutrophil function and related activities such as reactive oxygen species (ROS) production capability, phagocytic activity (PA) and serum opsonic activity (SOA). METHODS: 16 Japanese female university judoists were examined in the early morning of the first day (pre-values) and the last day (post-values) of a 20-day pre-competition training period. Of the 16 subjects, 8 needed to reduce weight (WR group) and the other 8 did not (control group). The parameters assessed were the neutrophil count, serum immunoglobulins and complements, myogenic enzymes, ROS production capability, PA and SOA. RESULTS: Comparing the post-values with the pre-values, ROS production significantly increased in both groups ($p<0.01$ for both). PA significantly decreased in the WR group ($p<0.05$); it also decreased in the control group but the decrease was not significant. SOA significantly increased in the control group ($p<0.05$), but showed no significant change in the WR group. CONCLUSIONS: The changes in the WR group were probably a direct consequence of the weight-reduction regimen coupled with the exercise regimen, suggesting that neutrophil parameters (ROS production, PA and SOA) had tended to deviate from their typical compensatory changes to maintain immune system homoeostasis.
Notes: Department of Social Medicine, Hirosaki University School of Medicine, Zaifu-cho, Hirosaki, Aomori, Japan.

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266. Yan, H., G. Q. Cui, J. Q. Wang, Y. Yin, and Y. F. Ao. Arthroscopic debridement of osteoarthritic elbow in professional athletes *Chin Med. J. (Engl.)* 124:4223-4228, 2011.

Abstract: BACKGROUND: Arthroscopic debridement is an appropriate procedure for osteoarthritic elbow in general populations. However, the results of arthroscopic debridement in the professional athletes, a younger and highly active patient cohort is unclear. The purposes of this study were to assess the clinical outcomes of arthroscopic debridement of osteoarthritic elbow in professional athletes and to evaluate the effect of prognostic factors on the clinical outcomes. METHODS: From January 1999 to January 2006, 35 professional athletes with osteoarthritc elbow (36 elbows) were treated with arthroscopic debridement, consisted of osteophytes removal, loose bodies removal and fenestration of the olecranon fossa as necessary. Average patient age was (23 +/- 5) years (range 7 - 34 years). Average follow-up was (43 +/- 23) months (range 16 - 98 months). Athletic activities consisted mainly of wrestling, judo and weightlifting. Patients were evaluated preoperatively and postoperatively with the modified Hospital for Special Surgery (HSS) elbow scoring system. RESULTS: According to the modified HSS elbow scoring system, the result was excellent for 16 elbows, good for 14 and poor for 6. No case had got worse after surgery. All athletes reported an improvement in pain. After athletic training, 15 elbows were not painful, 16 mildly painful, 3 moderately painful and 2 severely painful. The arc of flexion-extension improved from 111 degrees preoperatively to 127 degrees postoperatively. All of the athletes were able to return to their previous level of training. Five athletes won national-level championships. At follow-up, 17 athletes (18 elbows) were greatly satisfied with the results, 12 satisfied and 6 unsatisfied. Postoperatively, one athlete reported ulnar nerve symptoms and two others had residual loose bodies. The fenestration of the olecranon fossa was associated with a significantly increased chance of a poor outcome. The nature of the osteoarthritis, duration of symptoms, osteophytes removal and loose bodies removal did not predict the outcomes. CONCLUSIONS: Arthroscopic debridement of osteoarthritic elbow in professional athletes can yield significant short-term pain relief, as well as restoration of elbow range of motion and resuming their athletic training. The long-term durability of this procedure with regard to preservation of range of motion and radiographic progression of arthritis remains unknown.

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268. Yard, E. E. and R. D. Comstock. Compliance with return to play guidelines following concussion in US high school athletes, 2005-2008. *Brain Inj.* 23:888-898, 2009.
Abstract: PRIMARY OBJECTIVE: To determine whether US concussed high school athletes complied with recommended return-to-play guidelines during the 2005-2008 school years. RESEARCH DESIGN: Prospective cohort study in 100 nationally-representative US high schools. METHODS AND PROCEDURES: Certified athletic trainers submitted injury reports for concussed athletes in five boys' (football, soccer, basketball, wrestling, baseball) and four girls' (soccer, basketball, volleyball, softball) sports via High School RIO (Reporting Information Online). Concussions were retrospectively graded and it was determined whether athletes followed American Academy of Neurology (AAN) or Prague return-to-play guidelines. MAIN OUTCOMES AND RESULTS: There were 1308 concussions reported during 5 627 921 athlete-exposures (23.2 concussions per 100 000 athlete-exposures), reflecting an estimated 395 274 concussions sustained nationally. At least 40.5% and 15.0% of concussed athletes returned to play prematurely under AAN and Prague return-to-play guidelines, respectively. In football, 15.8% of athletes sustaining a concussion that resulted in loss-of-consciousness returned to play in <1 day. Males (12.6%) were more likely than females (5.9%) to return 1-2 days after sustaining an initial grade II concussion. CONCLUSIONS: Too many adolescent athletes are failing to comply with recommended return-to-play guidelines. Sports medicine professionals, parents, coaches and sports administrators must work together to ensure athletes follow recommended guidelines.

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272. Yoshioka, Y., T. Umeda, S. Nakaji, A. Kojima, M. Tanabe, N. Mochida, and K. Sugawara. Gender differences in the psychological response to weight reduction in judoists. *Int J Sport Nutr Exerc Metab* 16:187-198, 2006.
Abstract: We examined gender-related differences in the psychological response to weight reduction in 43 judoists. Twenty-two males and 8 females who required weight reduction [weight reduction (WR) group] (the average percentages of weight reduction observed for males and females were 3.4% and 4.9%, respectively), and 5 males and 8 females who did not require weight reduction (non-WR group). The POMS scores were measured before and after weight reduction. The TMD (total mood disturbance) score in POMS significantly increased after weight reduction only in WR group males. In the female WR

group, the anger and depression scores decreased after weight reduction, and the pre-value of the TMD score in this group was relatively high. The psychological stress may be caused by anxiety engendered by the overall concept of weight reduction before actual weight reduction in females, whereas in males it may be caused by the actual weight reduction.

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Abstract: The aim of this study was to examine the anthropometric characteristics and body composition of wrestlers from the Italian national team. The study was carried out on a sample of 23 wrestlers (9 females and 14 males) aged 18-33 years. Various anthropometric measurements were performed (weight, height, sitting height, some girths and skinfold thicknesses) and anthropometric indices calculated (body mass index, cormic index, upper arm muscle area, upper arm fat area, and arm fat index). Body composition was assessed and minimum wrestling weight was determined based on a minimum body fat percentage of 5% for males and 12% for females. We undertook comparisons by sex, wrestling style (for males), and weight category. The comparison between men's and women's wrestling corroborated known differences between the sexes; the comparison between wrestling styles stressed the relevance of the cormic index. The most interesting finding of this study was that no female wrestler competed in a lower weight class than her minimum wrestling weight, even if all of them were heavier than values allowed for their weight class. Five of 14 male wrestlers competed in a weight class lower than their minimum wrestling weight, and all of them, except two, were heavier than the uppermost limit of their weight class.

274. Zhang, X. A Study of Characteristics of Biochemical and Physiological Index of Elite Chinese Woman Wrestlers before Competitions. *Journal of Beijing Sport University* 31:477-482, 2008.
Abstract: The article studies the characteristics of the physiological and biochemical indexes of elite Chinese women wrestlers prior to major tournaments. It includes an in-depth analysis of the wrestlers' cortisol, testosterone, blood ammonia, hematuria and blood lactic acid levels, as well as a discussion on the issues' implications for sports science.

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Abstract: The purpose of this investigation was to describe the physiological profile of elite, senior Chinese female wrestlers. Twenty-five elite wrestlers, nationally ranked in the top 3 of their weight class, participated in this study. The subjects included Olympic and world champion medalists. The physiological profile included testing of running maximal oxygen consumption (VO2max), 3,200-m run time, 400-m run time, 30-second Wingate anaerobic power and capacity, shoulder, elbow, knee, and trunk isokinetic torque, and 1 repetition maximums (1RMs) in specified exercises. The major results (mean +/- SD) were VO2max: 50.58 +/- 3.33 ml.kg(-1).min(-1); 3,200-m run: 14 minutes 1 second +/- 49 seconds; 400-m run: 1 minute 11 seconds +/- 4 seconds; Wingate maximal anaerobic power: 495.21 +/- 79.13 W and mean power: 262.97 +/- 52.39 W; 1RM deadlift: 124 +/- 19 kg; 1RM deep squat: 98 +/- 11 kg; 1RM prone rowing: 72 +/- 8 kg; 1RM power clean: 76 +/- 12 kg; and 1RM hold and squat: 109 +/- 17 kg. In absolute terms in the majority of measures, the heavier weight classes had greater values than the lighter weight classes, but relative to body mass, there were few differences in measures between the weight classes. The Olympic and World Championship medalist had the best value or was at the upper end of a measure's range for the strength and power measures. The results indicate that female wrestling success is not dependent on one physiological characteristic, but that a variety of physiological profiles can result in success. These data on elite female wrestlers can be compared with other wrestlers to help determine individual weaknesses or strengths and to design training programs that result in wrestling success.