

Testimony Before the Committee on Commerce, Science, and Transportation United States Senate

Promotion and Advancement of Women In Sports

Statement of
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Good morning Senator Stevens, Senator Inouye, Committee Members, staff and guests. Thank you for holding this very important hearing.

My name is Dot Richardson, and I'm here today as vice chair of the President's Council on Physical Fitness and Sports to testify about the importance of promoting and advancing opportunities for women in physical activity and sports. I bring you warm greetings from Secretary Michael O. Leavitt of the U.S. Department of Health and Human Services (HHS). The President's Council on Physical Fitness and Sports, an advisory committee within HHS, is celebrating its 50th anniversary in 2006. The observance of the Council's first fifty years (1956-2006) coincides with the tenth anniversary of the Surgeon General's landmark report on physical activity (1996), *Physical Activity and Health*. Given the rates of overweight and obesity that continue to plague the nation, 2006 presents an opportune time to bring more visibility to the importance of physical activity, fitness and sports for improving and maintaining health.

I feel fortunate to be serving on the Council under the fittest president in our nation's history. President and Mrs. Bush are excellent role models in health and fitness for all Americans. Despite their busy schedules, they make physical activity a regular part of their daily lives. President Bush says, "Better health is an individual responsibility and an important national goal."

To fulfill the vision of a "HealthierUS," the President, the Secretary and the members of the President's Council on Physical Fitness and Sports are asking each American to adopt four simple behaviors than can change your life: be physically active every day; eat a nutritious diet; get preventive screenings; and make healthy choices.

Our nation's poor eating habits and sedentary lifestyles are killing thousands of Americans every day. The cost of obesity and type 2 diabetes combined is up to \$250 billion a year. If there were a medication on the market that conveyed all of the health benefits of active living, everyone would take it. To all Americans of all ages and abilities, men and women, boys and girls alike, we say, "Daily physical activity is a magic pill."

I'm here today to tell you the story of a young girl in the late 1960s and early 1970s. She played outdoors with her brothers; she loved to run after rabbits and race trucks, to climb trees, to catch a ball. She shared a frustration with many girls her age: she loved sports but couldn't find a girls' team anywhere. For a young girl at that time, the only way you could play is if a boys' team let you.

One day, that young girl was playing catch with her brother—helping him warm up before he went to play a Little League baseball game. Her brother's coach saw her playing and asked if she wanted to play on the team. But if she did, he said, she'd have to cut her hair short, and he'd call her "Bob."

I was that little girl, Senators. But I wasn't brought up to be a covert operative. So, well-brought up young lady that I was, I smiled and politely declined, then walked over to a nearby field, where there was a team of women practicing softball. The coach noticed me and let me take a few ground balls. I'd never heard of women's fast-pitch softball, but at the age of ten, I became the youngest member of that team.

I was one of the lucky girls back then, able to live my sports dream during my growingup years. Today, an American girl doesn't have to search as long and hard as I did to belong to a team. There are many chances for girls to play on an organized girls' softball team, from church leagues to recreational leagues.

During all my years playing women's softball, I never dreamed I'd experience Olympic glory. But in the summer of 1996, I had the privilege of playing on the team that won a gold medal in women's softball.

That same year, 1996, the Surgeon General published the landmark report *Physical Activity and Health.* That report clearly documented that regular, preferably daily, routine of at least 30 to 60 minutes of brisk walking, bicycling, or even dancing will reduce the risks of developing or dying from cardiovascular disease, breast and colon cancer, and type 2 diabetes and will reduce symptoms of anxiety and depression; help control weight; and help build and maintain healthy bones, muscles and joints. The 30 to 60 minutes doesn't have to be done at one time—it can be broken up into smaller increments.

On the heels of the Surgeon General's report on physical activity and health, the President's Council on Physical Fitness and Sports published its own report, "Physical Activity and Sport in the Lives of Girls: Physical and Mental Health Dimensions from an Interdisciplinary Approach." Today I want to paraphrase some of the highlights of that landmark report and update you on the current work of the U.S. Department of Health and Human Services in addressing physical activity for women and girls in America. Physical activity and sports involvement are important developmental opportunities for both boys and girls. Contributions include increased strength and power, better cardiovascular functioning, enhanced immune system responses, opportunities to develop moral reasoning, positive self-concepts and social interaction skills. There are however unique dimensions of the sport experience for girls in terms of physiological

and psychological/emotional development and the challenges, which sometimes exist between socially, influenced expectations.

All children should participate in regular physical activity and sport experiences, especially in quality, adult supervised activities at home, at school and in after-school programs. A wide range of activities should be available, including both individual and group experiences and cooperative vs. competitive ones. Moderate and regular physical activity can promote psychological and emotional well being, including reduced depression. Equal and safe opportunities and environments should be provided for both boys and girls to participate in a full range of physical fitness and sport activities.

Maintaining physical fitness and developing good fundamental movement skills by actively participating in daily activity contributes to happier and healthier lives by facilitating both physical and emotional health.

Involvement in sport and physical activity contributes to the physical movement capacities of girls, the health status of their bodies, the values and ethical behaviors they develop and their personal development of a unique identity. Childhood activities related to sport and physical activity should include opportunities for girls to develop fundamental fitness, and to acquire the motor skills necessary for life long learning and leisure time activities and to facilitate good immune system functioning, build physical fitness, and maintain appropriate body weight.

One of the most basic benefits of physical activity is the development of motor skills.

Providing these opportunities to learn these skills is important for all people, including all girls and women.

All areas of fitness are affected by regular physical activity but three that seem to be especially impacted by regular physical activity are muscular fitness, cardiovascular fitness (aerobic fitness) and anaerobic power. For most girls, muscular fitness increases until about age 14, but for sedentary girls it may slow more rapidly or even decrease (Blimkie, 1989). However, systematic physical activity including both short term training programs (Sale, 1989) and regular physical activity programs can produce marked improvement in strength for girls.

One of the primary advantages of active physical participation for children seems to be directly linked to lower body fat and a better ratio of lean to fat mass. Children with above average levels of body fat generally have higher total cholesterol, and LDL cholesterol and often-associated elevated blood pressure (Williams, et al., 1992). Elevated levels of cholesterol in children are very important because children who have higher levels of cholesterol are almost three times more likely than older children to have high cholesterol levels as adults (National Cholesterol Education Program, 1991). The best strategy for lowering cholesterol in children is a combination of physical activity and diet which may also lead to lowered blood pressure, and other benefits thought to be brought about because of decreased cardiac output, decreased peripheral resistance, and reduced risk of blood clotting (Blair, et al., 1996).

Physical activity and sport experiences can also be beneficial in maintaining appropriate body weight, or the balance between energy expenditure and caloric intake (especially the relative proportion of fat intake in terms of the percent of total calories. The problem of juvenile obesity is twice as great today as it was in the 1960's (Blair et al., 1996), and a particular problem for juvenile girls. For most young girls, normal daily activity provides an adequate balance of intake and expenditures, but for females with weight problems,

maintaining regular physical activity levels is an important adjunct in weight control because of its role in facilitating fat-free mass and promoting the loss of fat (Wells, 1991). It is also thought to be important in reducing the risk of non-insulin dependent diabetes, which is one of the ten most prevalent causes of death in the United States (Blair, et al., 1996).

One major advantage of physical activity for girls is that it increases "peak bone mass."

Peak bone mass is the level of bone mass at its highest point—usually occurring in the teens or early 20s. High peak bone mass can be viewed much as a bank savings account where withdrawals can be made later in life when needed. The higher the peak mass, the less likely that losses later in life will result in low bone mass or osteoporosis.

Extensive research has emerged to support the contention that regular physical activity (at a moderate level) facilitates the body's ability to fight infection (e.g. upper respiratory infection (Nieman, 1994)) and disease through increased immune system function (Freedson &Bunker, 1997).

The involvement of girls in sport is largely impacted by the attitudes of parents and other role models (teachers, family). If parents support their involvement and encourage it, girls can benefit in many positive ways from sport and physical activity. There appears to be a strong interaction between how girls perceive their success in sport, and how others influence that perception. During early years, both boys and girls are about equal in terms of physical skills and rely on adult comments (especially parents) to help them judge their competency until about age 10 (Weiss &Ebbeck, 1996). Most girls participate in sport to have fun, improve skills, be with friends and become physically fit while enjoying the challenges and being successful (Weiss &Petlichkoff, 1989). In particular,

when motivation to participate in sport was examined, Gill (1992) found three different reasons: competitiveness, win orientation and goal orientation. Girls seem to be higher in goal orientation or the desire to achieve personal goals while boys seem to be more motivated by winning. Many girls prefer activities that allow them to work together to improve, or to function cooperatively to accomplish goals (Jaffee &Manzer, 1992), rather than competitive activities such as physical fitness testing (Wiese-Bjornstal, 1997). It is therefore important to structure daily physical activity experiences to provide motivation for children who have both goal and win orientations.

During adolescence there appears to emerge a gender difference such that girls rely on adults and their own self-comparisons, while boys seem to rely more on competitive outcomes, their ability to learn new skills and their own ego-centric judgments of physical competence (Weiss &Ebbeck, 1996). These differences suggest the important role of parents, teachers and coaches in influencing girls attitudes toward participation.

Participation in sport and physical activity has a positive effect on emotional well-being. Children who are depressed or having emotional problems benefit from increased levels of physical activity (Biddle, 1995), with benefits reported to lower levels of depression (Morgan, 1994) and general anxiety (Landers &Petruzzello, 1994). The effects of participation in an active life style may have both a beneficial treatment effect, and also a palliative or buffering effect prior to any onset of emotional problems (Wiese-Bjornstal, examining the research literature regarding the influence of physical activity on depression and anxiety (Singer, 1992). Physical activity can help reduce anxiety, help decrease mild to moderate depression, help reduce anxiety, reduce various types of stress, and have beneficial emotional effects. In addition, regular physical activity and its body composition benefits may also result in increased energy and improved sleep

patterns (Martinsen &Stephens, 1994) and a general feeling of self-accomplishment for sticking to goals and developing new skills (Koniak-Griffin. Sport and physical activity can provide a great venue for exploring strategies to resolve conflicts, act fairly, plan proactively, and to generally develop a moral code of behavior. Opportunities exist for children to experience their own decision-making and to observe other role models such as parents, coaches and other athletes and to get feedback about their own ethical behaviors (Martens, 1993). There are many opportunities for good moral development through sport and physical activity, especially when these opportunities are provided under adult guidance and structured to support positive growth and avoid the potential negative impact of anti-social behaviors (cheating, aggression and intimidation) that accompany some inappropriately competitive activities (Gibbons, Ebbeck &Weiss, 1995). Sport can be a great avenue for developing more mature moral reasoning skills that are characterized by more assertion and less aggression, and more compliance with rules and fair play (Stephens & Bredemeier, 1996). Some children love low levels of competition while others are psychologically ready for higher levels of competition when they want to compare their skills with others and when they can understand the competitive process (Passer, 1988).

The U.S. Department of Health and Human Services has several ongoing initiatives and programs to address women's health issues throughout its agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Office of Women's Health (OWH) within the Office of the Assistant Secretary for Health. These agencies participate in the Women's Health Coordinating Committee as do the women's health components of many other HHS agencies. I want to share with you today a few notable HHS initiatives that concern physical activity and health for women and girls.

The results of the Health and Growth Study, funded by the National Heart, Lung, and Blood Institute of the NIH, showed that a decline in physical activity plays key role in weight gain among adolescent girls. Girls who were inactive during adolescence gained an average of 10 to 15 pounds more than active girls, according to results of the 10-year observational study of obesity. Total calorie intake increased only slightly and was not associated with the weight gains. These results show that a previously reported steep decline in physical activity among adolescent girls is directly associated with increased fatness and an increase of body mass index (BMI), a measure of body weight adjusted for height. The NHLBI has launched "We Can! — Ways to Enhance Children's Activity and Nutrition" — a childhood obesity prevention program designed to encourage parents and children to adopt healthy eating habits, increase physical activity, and reduce leisure "screen time". More than 35 communities across the country are integrating "We Can!" lessons into health programming for parents and kids.

The CDC, the HHS Office Women's Health, and the National Osteoporosis Foundation (NOF) have partnered on an initiative, the National Bone Health Campaign ("Powerful Bones. Powerful Girls" TM). This program uses a social marketing approach to promote optimal bone health among girls 9–12 years of age in an effort to reduce their risk of osteoporosis later in life. The campaign's purpose is to encourage girls to establish lifelong healthy habits, focusing on increased calcium consumption and weight-bearing physical activity to build and maintain strong bones. Parents and other adults close to girls play an important role by encouraging girls to take action. Resources for this campaign include a Web site for girls, and print materials, radio and print advertisements for girls and parents.

The HHS Office on Women's Health has also developed the <u>GirlsHealth.gov</u> web site, which promotes healthy, positive behaviors in girls between the ages of 10 and 16. The site gives girls reliable, useful information on the health issues they will face as they become young women, including physical activity and sports. The site offers tips on handling relationships with family and friends, at school and at home. It focuses on health topics that girls are concerned about and helps motivate them to choose healthy behaviors by using positive, supportive, and non-threatening messages.

Finally, I want to tell you about the President's Challenge, the motivational awards program of the President's Council on Physical Fitness and Sports. As the Council members and I travel around the country, we want to do more than quote health statistics. We are offering a <u>tool</u> to get all Americans, including women and girls, to start moving *today*. That tool is the "President's Challenge," a program to motivate everyone to start moving today and stay active for a lifetime.

You, Senators, and your colleagues, staff, family and friends—can participate in the Challenge by logging on to presidentschallenge.org—and signing up to earn a Presidential Active Lifestyle Award (PALA) for activity on five or more days a week for six weeks (30 minutes for adults, 60 minutes a day for youth aged 6-17). For those who are already active, the Presidential Champions awards offer bronze, silver and gold medals for points earned through participating in one or more of over 100 activities.

Every activity counts toward the awards— walking, climbing the stairs, raking leaves, digging in the garden, mopping the floor, biking, playing tag, dancing, jumping rope, sports-- any physical activity! And you don't have to do it at one time — you can accumulate activities in smaller increments. Take the President's Challenge yourself

and challenge your family to join you; challenge your constituents and staff to join you.

Particularly, I call on you today to challenge the women in your life to start moving for

health and well-being today-- at home, at school, at work, at play and leisure, and in

retirement communities and senior centers.

Please, tell your constituents to "Be physically active every day." Tell them in your

speeches and press conferences -- any time you speak about health. Please promote

the active lifestyle, promote a *HealthierUS*. Together, step-by-step, day-by-day, we can

build a healthier U.S. for Americans of all ages, backgrounds and abilities, men and

women, boys and girls alike.

Thank you for the opportunity to testify this morning. I would be happy to respond to

questions.

References and Resources

- 1. Armstrong, N., & Weissman, J.R. (1994). Assessment and interpretation of aerobic fitness in children and adolescents. In J.E. Holloszy (Ed.), Exercise and Sport Science Review. (pp. 435-476). Philadelphia: Williams and Wilkins.
- 2. Bar-Or, O., & Malina, R.M. (1995). Activity, fitness, and health of children and adolescents. In L.W. Y. Cheung & J.B. Richmond (Eds), Child health, nutrition, and physical activity. (pp. 79-123). Champaign, IL: Human Kinetics Publishers.
- 3. Berryman, J. (1996). The rise of boys' sports in the United states, 1900-1970. In F. Smoll & R. Smith (Eds). Children and Youth in Sports: A Biopsychosocial Perspective. Dubuque, IA: Brown and Benchmarks.
- 4. Biddle, S. (1995). Exercise and psychosocial health. Research Quarterly for Exercise and Sport, 66(4), 292-297.
- 5. Blair, S.N., Horton, E., Leon, A.S., Lee, I-M., Drinkwater, B.L., Dishman, R.D., Mackey, M., & Keinholz, M.L. (1996). Physical activity, nutrition and chronic disease. Medicine and Science in Sports and Exercise, 28, 335-349.
- 6. Blimkie, C.J.R. (1989). Age and sex associated variation in strength during childhood: Anthropometric, morphologic, neurologic, biomechanical, endcrinologic, and physical activity correlates. In C.V. Gisolfi & D. R. Lamb (Eds), Perspectives in exercise science and sports medicine volume 2: Youth exercise and sport (pp 99-163). Indianapolis: Benchmark.
- Brustad, R.J. (1993). Youth in sports: Psychological considerations. In R.N. Singer, Murphey & L.K. tenneant (Eds.) Handbook of research on sorts psychology. (695-717). New York: Macmillan Publishing Co.
- 8. Fehily, A.M., Coles, R.J., Evans, W.D., Elwood, P.C. (1992) Factors affecting bone density in young adults. American Journal of Clinical Nutrition, 56, 579-586.
- 9. Freedson, P. & Bunker, L.K. (1997). Section I: Physiological dimensions. In the President's Council on Physical Fitness and Sport, Physical Activity and Sport in the Lives of Girls. (pp 1-16). Washington, DC: President's Council.
- 10. Garcia, C. (1994). Gender differences in young children's interactions when learning fundamental motor skills. Research Quarterly for Exercise and Sport, 65(3), 225.
- 11. Gibbons, S.L., Ebbeck, V., & Weiss, M.R. (1995). Fair play for kids: Effects on the moral development of children in physical education. Research Quarterly for Exercise and Sport, 66(3), 247-255.
- 12. Gill, D.L. (1992). Gender and sport behavior. In T. S. Horn (Ed.), Advances in sport psychology (pp. 143-160). Champaign, IL: Human Kinetics Publishers.
- 13. Gill, D.L. (1995). Gender issues: A social-educational perspective. In S.M. Murphy (Ed.), Sport psychology interventions (pp. 205-234). Champaign, IL: Human Kinetics Publishers.
- 14. Gould, D. (1993). Intensive sport participation and the prepubescent athlete: Competitive stress and burnout. In B.R. Cahill & A.J. Pearl (Eds.), Intensive participation in children's sports (pp.19-38). Champaign, IL: Human Kinetics Publishers.
- 15. Greenberg, D. & Oglesby, C. (1997). Section IV: Mental health dimensions. In the President's Council on Physical Fitness and Sport, Physical Activity and Sport in the Lives of Girls. (pp 1-16). Washington, DC: President's Council.
- 16. Greist, J.H., & Jefferson, J.W. (1992). Depression and Its Treatment (Rev. Ed.). Washington, DC: American Psychiatric Press.

- 17. Jaffee, L., & Manzer, R. (1992). Girls' perspectives: Physical activity and self-esteem. Melpomene: A Journal for Women's Health Research, 11(3), 14-23.
- 18. Jaffee, L., & Wu, P. (1996). After school activities and self-esteem in adolescent girls. Melpomene: A Journal for Women's Health Research, 15(2), 18-25.
- 19. Koniak-Griffin, D. (1994). Aerobic exercise, psychological well-being, and physical discomforts during adolescent pregnancy. Research in Nursing & Health, 17, 253-263.
- 20. Kramer, M.M. & Wells, C.L. (1996). Does physical activity reduce risk of estrogendependent cancer in women? Medicine and Science in Sports and Exercise, 28, 322-334.
- 21. Landers, D.M., & Petruzzello, S.J. (1994). Physical activity, fitness and anxiety. In C. Bouchard, R.J. Shepard, &
- 22. T. Stephens (Eds.), Physical activity fitness and health (pp. 868-882). Champaign, IL: Human Kinetics Publishers.
- 23. Martens, R. (1993). Psychological perspectives. In B.R. Cahill & A.J. Pearl (Eds.), Intensive participation in children's sports (pp. 9-17). Champaign, IL: Human Kinetics Publishers.
- 24. Martinsen, E.W., & Stephens, T. (1994). Exercise and mental health in clinical and free-living populations. In R.K. Dishman (Ed.), Advances in exercise adherence (pp. 55-72). Champaign, IL: Human Kinetics Publishers.
- 25. Morgan, W.P. (1994). Physical activity, fitness and depression. In C. Bouchard, R.J. Shepard, & T. Stephens (Eds.), Physical activity, fitness and health (pp. 851-867). Champaign, IL: Human Kinetics Publishers.
- 26. National Cholesterol Education Program. (1991). Report of the expert panel on blood cholesterol levels in children and adolescents. (NIH Publication No. 91-2732). Bethesda, MD: National, Heart, Lung and Blood Institute.
- 27. National Federation of State High Schools Association. (1995-96). The National Federation of State High School Associations Handbook, 1995-96. Kansas City, MO: NFSHSA.
- 28. Newsholme, E.A., & Parry-Billings, M. (1994). Effects of exercise on the immune system. In C. Bouchard, R.J. Shephard, & T. Stephens (Eds). Physical activity, fitness and health: International proceedings and consensus statement (pp 451-455). Champaign, IL: Human Kinetics Publishers Nieman, D.C. (1994). Exercise, upper respiratory infection, and the immune system. Medicine and Science in Sports and Exercise, 26, 1057-1062.
- 29. North, T.C., McCullaugh, P., & Tran, Z.U. (1990). Effects of exercise on depression. Exercise and Sport Science Reviews, 18, 379-415.
- Oler, M.J., Mainous III, A.G., Martin, C.A., Richardson, E., Haney, A., Wilson, D., & Adams, T. (1994). Depression, suicidal ideation, and substance use among adolescents: Are adolescents at less risk? Archives of Family Medicine, 3, 781-785.
- 31. Passer, M.W. (1988). Psychological issues in determining children's agereadiness for competition. In F.L. Smoll, R.A. Magill, & M.J. Ash (Eds). Children in sports (pp 203-227).
- 32. Plaisted, V. (1995). Gender and sport. In T. Morris & J. Summers (Eds.), Sport psychology: theory, applications and issues (pp. 538-574). New York: John Wiley & Sons.
- 33. President's Council on Physical Fitness and Sports (1997a). Physical Activity and Sport in the Lives of Girls: Physical and Mental Health dimensions from an

- Interdisciplinary Approach. Washington, DC: Department of Health and Human Services.
- 34. President's Council on Physical Fitness and Sports (1997b). Executive Summary of Physical Activity and Sport in the Lives of Girls: Physical and Mental Health dimensions from an Interdisciplinary Approach. Washington, DC: Department of Health and Human Services.
- 35. Reel, J. J. & Gill, D.L. (1996). Psychosocial factors related to eating disorders among high school and college female cheerleaders. The Sport Psychologist, 10, 195-206.
- 36. Sale, D.G. (1989). Strength training in children. In C.V. Gisolfi & D. R. Lam (Eds.), Perspectives in exercise science and sports medicine. Vol 2: Youth, exercise, and sport (pp. 165-222). Indianapolis, Benchmark Press.
- 37. Sewall, L., & Micheli, L.J. (1986). Strength training for children. The Journal of Pediatric Orthopaedia Strabismus, 6, 143-146.
- 38. Shepard, R.J. (1984). Physical activity and child health. Sports Medicine, 1, 205-233
- 39. Singer, R.S. (1992). Physical activity and psychological benefits: A position statement of the International Society of Sport Psychology (ISSP). The Sports Psychologist, 6, 199-203.
- 40. Stager, J.M., Wigglesworth, J.K., & Hatler, L.H. (1990). Interpreting the relationship between age of menarche and prepubertal training. Medicine and Science in Sports and Exercise, 22, 54-58.
- 41. Stephens, D., & Bredemeier, B.J. (1996). Moral atmosphere and judgments about aggression in girls' soccer: Relationships among moral and motivational variables. Journal of Sport and Exercise Physiology, 18(2), 158-171.
- 42. Thorne, B. (1993). Gender play: Girls and boys in school. New Brunswick, NJ: Rutgers University Press.
- 43. Weiss, M.R., & Ebbeck, V. (1996). Self-esteem and perceptions of competence in youth sports: Theory, research and enhancement strategies. In O.Bar-Or (Ed.), The child and adolescent athlete (pp. 364-382). Oxford, England: Blackwell Scientific Ltd.
- 44. Weiss, M.R., & Petlichkoff, L.M. (1989). Children's motivation for participation in and withdrawal from sport: Identifying the missing links. Pediatric Exercise Science, 1, 195-211.
- 45. Wells, C.L. (1991). Women, sport and performance, 2 ed. Champaign, IL: Human Kinetics Publishers.
- 46. Wiese-Bjornstal, D. (1997). Section II: Psychological dimensions. In the President's Council on Physical fitness and Sport report Physical Activity and Sport in the Lives of Girls. (pp. 49-69). Washington, D.C.: President's Council.
- 47. Williams, D.P., Going, S.B., Lohman, T.G., Harsha, D.W., Srinivasan, S.R., Webber, L.S., & Berenson, G.S. (1992). Body fatness and risk for elevated blood pressure total cholesterol and serum lipoprotein ratios in children and adolescents. American Journal of Public Health, 82, 358-363.
- 48. Women's Sports Foundation Report: Minorities in sports. (1989). East Meadow, NY: Women's Sports Foundation.