



December 2009

Her Life Depends On It II

Sport, Physical Activity, and
the Health and Well-Being of
American Girls and Women

Executive Summary



Women's Sports Foundation Acknowledgments

This report is an update of the original report released in 2004. The overall framework of the original report remains intact here and all credit must be extended to the co-authors of the original report. Those individuals included Don Sabo, Ph.D., Director, Center for Research on Physical Activity, Sport and Health, D'Youville College, Buffalo, NY; Kathleen E. Miller, Ph.D., Research Scientist, Research Institute on Addictions, State University of New York at Buffalo; Merrill J. Melnick, S.U.N.Y., College at Brockport, Department of Physical Education and Sport; and Leslie Heywood, Ph.D., Professor of English and Cultural Studies, S.U.N.Y.-Binghamton.

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About the Women's Sports Foundation

The Women's Sports Foundation—the leading authority on the participation of women and girls in sports—advocates for equality, educates the public, conducts research, and offers grants to promote sports and physical activity for girls and women.

Founded by Billie Jean King in 1974, the Women's Sports Foundation builds on her legacy as a champion athlete, advocate of social justice, and agent of change. We strive for gender equity and fight discrimination in all aspects of athletics.

Our work shapes public attitude about women's sports and athletes, builds capacities for organizations that get girls active, provides equal opportunities for girls and women, and supports physically and emotionally healthy lifestyles.

The Women's Sports Foundation is recognized worldwide for its leadership, vision, strength, expertise, and influence.

For more information, please call the Women's Sports Foundation at 800.227.3988 or visit www.WomensSportsFoundation.org.

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In 2004, the Women's Sports Foundation published the first edition of *Her Life Depends On It* (Sabo et al.). At that time, it was clear that evidence-based research confirmed that regular physical activity and sport provides the critical foundation, in no small part, that allows girls and women to lead healthy, strong, and fulfilled lives. Now, five years later, *Her Life Depends On It II*, provides an updated, and even more comprehensive, review of the existing research on the links between sports and physical activity and the health and well-being of American girls and women. This expanded review of existing research and health information is co-authored by a team of experts from several related disciplines, including epidemiology, exercise physiology, kinesiology, psychology, and sociology. Some key contributions of this new report include the following:

- Research affirms, even more definitively than five years ago, that engagement in moderate and consistent levels of physical activity and sport for girls and women is essential to good health and well-being.
- Although more research needs to be done, early studies examining the connections between physical activity and academic achievement show there is a positive relationship between the two in girls and women.
- Females from lower economic backgrounds and females of color engage less in physical activity, have less access to sport and physical fitness programs, and suffer negative health consequences as a result.
- Emerging research in prevention and training practices show that gender-conscious approaches to physical training and conditioning for female athletes help to reduce the likelihood of anterior cruciate ligament (ACL) injuries and concussions.

This report could not issue at a more opportune and urgent time. Government leaders, policymakers, and health planners are struggling to reform the health care delivery system, to contain costs, and to initiate preventive strategies. Physical activity is increasingly recognized as a viable strategy for elevating the nation's health. In 1996, on the eve of the Olympic Games in Atlanta, the Surgeon General of the United States released a report on physical activity and health that was described by then United States Secretary of Health and Human Services, Donna Shalala, as representing a "passport to good health for all Americans" (p.3). The Centers for Disease Control and Prevention followed suit that same year, creating a unit designed to promote health through physical activity (Buchner & Schmidt, 2009). In 2004, the World Health Organization (WHO) put forward the Global Strategy on Diet, Physical Activity and Health, the goal of which was to promote and protect the health of the world's citizens by developing enabling environments for sustainable actions at individual, community, national and global levels. Taken together, these efforts were designed to reduce disease and death rates related to unhealthy diet and physical inactivity. Finally, in July of 2009, a national conference

was held in Washington, D.C., to establish the groundwork for America's first National Physical Activity Plan.

Her Life Depends On It II documents the important role physical activity can play in helping to prevent the daunting array of health risks for girls and women such as obesity, coronary heart disease, cancer, osteoporosis, Alzheimer's Disease and related dementias, illicit drug use, tobacco-related disease, sexual risk and teen pregnancy, and eating disorders. In addition to documenting the contributions of sport and physical activity to girls' and women's health and well-being, this version of *Her Life Depends On It* provides an overview of emerging research on several health risks that are associated with overtraining and athletic participation, as well as new studies that point to effective strategies designed to prevent injuries from happening.

Within the United States, the Institute of Medicine defined public health as the collective actions undertaken by a society "to assure the conditions for people to be healthy" (Committee for Assuring the Health of the Public in the 21st Century, 2002). The research compiled in our updated report strongly suggests that sport and physical activity provide conditions that help to ensure girls' health and well-being. Some findings identified in this report relate to:

- **Breast Cancer Risk:** Based on the findings from 23 studies examining the effect of moderate and vigorous physical activity during adolescence on cancer risk, those who had the highest physical activity during adolescence and young adulthood were 20% less likely to get breast cancer later in life (Lagerros et al., 2004).
- **Osteoporosis:** A study following pre-pubertal 10-year-old girls for 20 months found that an exercise program (engaged in three times a week for 12 minutes per session) led to an increase in bone mass. This result was not found for the girls who did not participate in the exercise program (MacKelvie et al., 2001; MacKelvie et al., 2002; MacKelvie et al., 2003; MacKelvie et al., 2004).
- **Smoking:** Female athletes who participated on one or two school or community sports teams were significantly less likely to smoke regularly than female non-athletes. Girls on three or more teams were even less likely to smoke regularly (Melnick et al., 2001).
- **Illicit Drug Use:** Two nationwide studies found that female school or community athletes were significantly less likely to use marijuana, cocaine, opiates, tranquilizers, prescription drugs, or "club drugs" like ecstasy or GHB (Ford, 2008; Miller et al, 2000; Pate et al, 2000; Yusko et al., 2008).

- **Sexual Risk:** Female athletes were less likely to have unprotected sex, sex with multiple partners, or sex under the influence of alcohol/drugs (Lehman & Koerner, 2004; Miller et al., 2002).
- **Depression:** Moderate levels of exercise and/or sports activity helped protect girls and women against depression (McKercher et al., 2009; Sanders et al., 2000).
- **Suicide:** Female high school/college athletes were less likely to consider, plan, or attempt suicide (Brown & Blanton, 2002; Brown et al., 2007; Sabo et al, 2005; Taliaferro et al., 2008a.).
- **Educational Gains:** According to Troutman and Dufur (2007), females who participated in high school sports were more likely to complete college than those who did not participate in sports.

The health benefits realized from the participation of girls and women in sport and physical activity vary by socioeconomic level and racial and ethnic group. Throughout the report, available findings document health risks and vulnerabilities for females of color as well as for girls and women living in urban and rural settings. A special addendum to the report is also available that integrates all of the findings related to these populations.

Despite this ever-expanding body of research, in general girls are still not afforded the degree of encouragement or opportunity extended to boys to participate in sports and fitness activities. Impediments to access remain an ongoing concern, complicated by recent trends that run counter to promoting physical activity, fitness, and sport programs in schools and communities. With schools cutting back on recess, a de-emphasis on physical education nationally, and persistent inequalities in school-sport programs and community-recreation programs, girls and women continue to encounter structural barriers to participation (Cheslock, 2007, 2008; Cooky, 2009; NASPE/AMA, 2006; National Federation of State High School Associations, 2008; National Parent Teacher Association, 2006; Sabo & Veliz, 2008).

While the research base illustrates the importance of physical activity in the lives of girls and women, it is also critical to examine a collection of issues related to performance—overtraining, lack of proper conditioning, poor equipment and unsafe facilities—that impact female athlete experience. In this report, we highlight the emerging areas of research that focus on protecting the health of female athletes and offer insights into the initiatives needed (steps that need to be taken) to ensure their health and safety. For example, a small proportion of female athletes may develop three interrelated conditions—eating disorders, amenorrhea, and osteoporosis—otherwise known as The Female Athlete Triad. Other emerging

areas of research focus on female athlete injuries to the head and body, among them tears to the anterior cruciate ligament (ACL) and concussions.

This report's user-friendly format provides a toolbox of information, analysis, and sources for parents interested in the health of their daughters; coaches interested in the well-being of female athletes; media interested in informing readers about strategies to achieve optimal health for females, both young and old, from every sector of society; health consumers; sport leaders and program heads; public health advocates; and public policy makers interested in reducing health care costs while emphasizing prevention and health promotion for female citizens. With increasing specificity and urgency, calls are being sounded across the United States for greater and better opportunities for all Americans to become more physically active. As those calls echo across the land it is imperative that the needs of girls and women be taken into account and met.

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