

# HOW TENNIS INFLUENCES YOUTH DEVELOPMENT

*Executive Summary*

*January 2019*

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**A Women's Sports Foundation Report**

## Acknowledgments

How Tennis Influences Youth Development builds on two previous research projects — *More Than a Sport: Tennis, Education & Health* (2013) and *Teen Sport in America: Why Participation Matters* (2018) — that view teen sports as an educational tool and public health asset. We are deeply indebted to Deborah Slaner Larkin, who originally championed the idea that each sport might make unique contributions to the health and well-being of American youth and that understanding these benefits would ultimately lead to more opportunities for youth to play sports. She was a powerful advocate and supporter for this line of research when she served as the Executive Director of the USTA Serves (now Foundation) and oversaw the development and conduct of the research that resulted in *More Than A Sport: Tennis, Education, and Health*, a first-of-its-kind, nationwide study that compared the educational and health profiles of adolescent tennis participants with participants in other non-contact sports and contact sports, as well as high school students who did not participate in sports. Later, as WSF CEO, she made this line of research an organizational priority, helped conceptualize the project, and made many important contributions to the final report. And now, we also express our appreciation to her for providing invaluable input from the study design phase to the analysis and the writing.

The Women's Sports Foundation is indebted to the study author, Philip Veliz, Ph.D., whose scholarly expertise in the how adolescent behavior is influenced by sports participation brought this project to life. The policy recommendations were written by Deborah Slaner Larkin and Marjorie Snyder, Ph.D., with valuable input from the USTA Foundation, New York Junior Tennis and Learning, and *Tennis Magazine*.

A special note of acknowledgement and appreciation is extended, as well, to Deana Monahan for her editorial and graphic skills.

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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 — is dedicated to creating leaders by ensuring girls access to sports. Founded by Billie Jean King in 1974, our work shapes public attitude about women's sports and athletes, builds capacities for organizations that get girls active, ensures equal opportunities for girls and women, and supports physically and emotionally healthy lifestyles. The Women's Sports Foundation has relationships with more than 1,000 of the world's elite female athletes and is recognized globally for its leadership, vision, expertise and influence. For more information, visit [www.WomensSportsFoundation.org](http://www.WomensSportsFoundation.org).

## About the MARGARET Fund

The MARGARET Fund at the Women's Sports Foundation was created in 2000 to help identify, fund and promote projects that foster gender equality for all in sports.

## Authorship

This study was authored by Phillip Veliz, Ph.D., Assistant Research Professor at the School of Nursing's Applied Biostatistics Laboratory and Associate Director of the Sport, Health, and Activity Research and Policy Center, University of Michigan.

## Author's Acknowledgments

I am grateful to the Women's Sports Foundation for making this report a reality. Many thanks to Dr. Marjorie Snyder, WSF Senior Director of Research, whose vision, scholarly expertise, and management skills set the stage for a successful project. A special note of acknowledgement and appreciation is extended, as well, to Deana Monahan for her editorial and graphic skills. Finally, special thanks to all the researchers who, over time and across a wide variety of disciplines, have contributed to the growing body of knowledge discussed in this report.

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# EXECUTIVE SUMMARY

In 2012 USTA Serves (USTAF) commissioned the Women's Sports Foundation (WSF) to conduct a research study to compare the education and health profiles of youth tennis participants with participants in other contact and non-contact sports, as well as students who do not participate in sports. The purpose was to provide quantitative research for the USTA, National Junior Tennis and Learning (NJTL) organizations, and other youth-serving sports organizations to determine how tennis participation positively influences the lives of U.S. youth across all socioeconomic levels. *More Than a Sport: Tennis, Education & Health (More Than a Sport)* was released in 2013.

Five years later, the WSF commissioned *Teen Sport in America: Why Participation Matters (Teen Sport Report)* to better understand the impact of sports participation on teen health, well-being and academic achievement. The purpose was to understand how each sport impacts teen well-being and whether the number of sports in which a teen participates influences their health. The report also explored whether sports opportunities overall, as well as individual sports, are accessible to all teens across genders, race and ethnicities, levels of family income, and regions. Finally, we wanted to identify the unique benefits and opportunities for improvement that exist within each sport to maximize the health benefits for teens.

Deborah Slaner Larkin, through the MARGARET Fund at the WSF commissioned the WSF to update the data from *More Than a Sport* and, as it specifically relates to tennis, build on the findings of the *Teen Sport Report* by examining participation and retention levels as well as what combination of sports is associated with the best academic, social, health, and behavioral outcomes among adolescents.

## Methods

The research is based on an analysis of the Monitoring the Future (MTF) nationwide surveys, a federally funded cross-sectional study of American secondary students conducted by researchers at the Institute for Social Research at the University of Michigan.

The Section 1 sample includes eighth-, 10<sup>th</sup>- and 12<sup>th</sup>-graders who participated between 2006 and 2016. The sample includes roughly 115,000 adolescents of which approximately 8,000 indicated participating in tennis at a competitive level during the past year (including 54,048 adolescents from the first report, of which 4,278 were tennis players). Nine sports were examined in the initial *More Than a Sport* report. Comparisons were made by sport and between non-participation/contact/non-contact sports and tennis. In the *Teen Sport Report* 20 sports were examined and 15 of those were included in this

report: cross country, baseball/softball, basketball, field hockey, gymnastics, football, ice hockey, lacrosse, soccer, swimming/diving, tennis, track, volleyball, weightlifting and wrestling.

Section 2 consists of roughly 14,000 12<sup>th</sup>-graders who were surveyed between 2010 and 2015 (roughly 2,500 who were randomly selected to fill out one of six possible forms) from the *Teen Sports Report*. Roughly 700 respondents indicated participating in tennis at a competitive level during the past year. In addition, a group of students that reported the highest levels of every outcome from the *Teen Sports Report* was analyzed.

Section 3 uses the same 12<sup>th</sup>-grade sample as Section 2. A latent class analysis (LCA) was used to create groups based on measures assessing diet and nutrition, physical activity, substance use, academic achievement, and psychological health.

## Key Findings

- 1. Most sports report participation declines.** There has been a small decline among tennis participation for both boys and girls between 2006 and 2016 (boys, 7.8% versus 5.8%; girls, 8.0% versus 6.1).
- 2. The diversity of boys who play tennis is increasing.** A notable change in the composition of tennis participants across the two time periods (2006-10 versus 2011-16) was found in the increase in the percentage of boys who identified as “Other Race” (18.8% to 24.2%).
- 3. Tennis retains its core participants.** Despite the decline in overall participation rates in tennis among boys and girls across the two time periods, the overall retention rate between eighth and 12<sup>th</sup> grade increased for both boys (90% to 105%) and girls (60% to 84%).
- 4. Most tennis participants play more than one sport.** More than three-quarters (77%) of boys and 58% of girls who participated in tennis also participated in at least one other sport within their school or community. When considering the top 10 most popular sports, boys who played tennis were most likely to participate in soccer and swimming. Girls were most likely to play soccer and lacrosse.
- 5. Tennis and school are a good match.** Overall, tennis reported one of the highest rankings with respect to academic achievement (highest or second-highest across five separate measures – percentage of A’s, average grade, 10 or more hours of homework per week, college attendance aspiration, and college graduation aspiration). Importantly, these outcomes assessing academic achievement typically increased across the two study periods. In particular, more than 70% of boys and girls who participated in tennis indicated that they would definitely go to and graduate from a four-year college. Overall, tennis ranked the lowest among the 15 sports for both suspension (15.9%) and being sent to the office (24.2%).

- 6. Tennis benefits youth from all socioeconomic groups.** Consistent with the first study, the associations presented held for various socioeconomic groups. While adolescents who came from higher SES backgrounds tended to have better academic, behavioral, social, and health outcomes, the impact of tennis was similar across all socioeconomic groups.
- 7. Tennis players are less prone to risky behaviors.** Overall, tennis participants had some of the lowest rates of binge drinking, marijuana use, and cigarette use across the 15 different sports: second-lowest for binge drinking, second-lowest for marijuana use, and third-lowest for cigarette use. The prevalence rates for binge drinking, smoking marijuana, and smoking cigarettes dropped between the two study periods among both boys and girls who participated in tennis.
- 8. Tennis players are psychologically healthy.** Tennis ranked above average among athletes on all measures of psychological health (self-esteem, loneliness, and self-derogation) with the exception of social support, in which boys who participated in tennis ranked below average when compared to other athletes.
- 9. Tennis players engage in healthy eating but need more sleep and physical activity.** Tennis ranked above average among athletes on all measures assessing healthy behaviors (eat breakfast, green vegetables, and fruit every day). However, tennis ranked as one of the lowest with respect to adolescents

indicating getting at least seven hours of sleep every day. Tennis also ranked below average among athletes with respect to exercising vigorously every day.

Among youth who were physically active for seven days during a typical week, boys who participated in tennis ranked above average among athletes and girls who participated in tennis ranked below average among athletes.

- 10. Among the top 10 most popular sports, tennis has the highest of the “healthy high achievers.”** Among the group of students who had the highest level of academic achievement, lowest prevalence of substance use, lowest school misbehavior, highest prevalence of health behaviors, and highest level of psychological health (Healthy High Achievers), boys who participated in tennis had the highest percentage across all sports (31.4%) and their girl counterparts ranked sixth (23.4%).

# CONCLUSION

The findings discussed in this report provide evidence that tennis participation positively influences the lives of U.S. adolescents. Many of the positive associations between tennis participation and developmental outcomes were similar across both time periods (i.e., 2006-10 versus 2011-16). Moreover, new analyses revealed several new findings that suggest that nearly one out of three adolescents who participate in tennis are both the healthiest and highest achieving students among their peers. Given these positive findings with respect to tennis participants, it may be important to grow tennis participation for other athletes who may be siloed into a single sport, who may predominantly participate in a certain type of sport (i.e., high-contact sports), and among other athletes who are not getting the educational, health, and social benefits that tennis participants are getting. Encouraging these athletes to expand their portfolio as it relates to sports during their off-seasons could encourage healthy development and expand social ties with new peer groups. Based on the findings in this report, tennis players can also clearly benefit from playing other sports that show a strong association with positive developmental outcomes.

While tennis remains a predominantly white sport, gender representation is equitable, and there is some evidence that youth participation is expanding as it relates to other racial groups that are gaining larger representation in the United

States. Additionally, and consistent with the first study, the associations presented hold for various socioeconomic groups. While adolescents who come from higher SES backgrounds tend to have better academic, behavioral, social, and health outcomes when compared to adolescents who are from more disadvantaged backgrounds, the impact of tennis is similar across all socioeconomic groups who participate in this sport. Finally, tennis appears to be a sport that many participants stick with over the important developmental period between middle and high school; a period when many adolescents begin to drop out of sport and reduce their levels of physical activity.

Despite the many positive benefits that are linked to tennis participation, tennis players did lag behind those participating in other types of sports for several types of behaviors. In particular, adolescents who participated in tennis indicated not getting enough sleep or engaging in appropriate levels of physical activity. Clearly this needs to be improved and may be linked to tennis participants committing additional hours to academics and other social or school-based extracurricular activities (e.g., lack of sleep due to studying for longer periods of time at night). Coaches and parents of youth tennis players should be aware of this and stress the importance of getting enough sleep and allowing time for physical activity – namely, coaches and parents need to be aware and communicate that

getting enough sleep and physical activity will improve their performance in the classroom and in other areas of their social lives.

Overall, the data from the MTF show a general profile of tennis players as well-rounded, successful at school, and involved with extracurricular activities. Tennis players also appear to be healthy overall and less prone to key adolescent health-risk behaviors than non-athletes and their peers who participate in other sports. Clearly, the data show that tennis is doing an effective job at retaining young participants, as well as helping them to develop friendships, excel on the academic front, and adopt healthy behaviors and may also be the potential catalyst for maintaining a longer and healthier life (Oja et al., 2016). The evidence uncovered here shows that tennis is achieving these objectives and, in the process, serves as a powerful catalyst for education and health among U.S. adolescents.



# POLICY RECOMMENDATIONS

## Further Research Needed

This research does an excellent job of identifying the health, academic, and psychosocial benefits that accrue to youth who play tennis. The next step is the “why” — why does playing tennis produce these outcomes? What are the basic ingredients that lead to positive experiences for youth? Understanding why tennis produces such positive outcomes could help other sports develop in ways that maximize the benefits of participation. Research is needed to help us answer the “why.”

## Increase Tennis Participation

While tennis is one of the 10 most popular sports for both boys and girls, only about 6% of youth participate in tennis. There is plenty of room for growth among both sexes, attracting different ethnic groups and participants of other sports. The industry needs to develop a plan targeted to key influencers (i.e., NGBs, parents, NJTLs, health-driven and policy-making organizations, schools, etc.) so the research data becomes well-known, especially since the positive benefits of tennis can potentially attract new participants who are seeking new activities.

## Increase the Diversity of Tennis Players

This report demonstrates that tennis is moving in the right direction in terms of diversifying participants. However, more progress is needed, especially concerning girls of color and both boys and girls from lower socioeconomic status. Greater efforts to recruit and retain these participants is needed, along with a greater effort to make this activity accessible year-round.

## Improve the Health Behaviors of Tennis Players

While there are many benefits attributed to tennis participation, there are a few areas in which tennis players report below-average ratings. Getting more physical activity and seven or more hours of sleep daily are two important areas for improvement. In addition, less than half of all tennis-playing youth eat breakfast daily. Tennis organizations should integrate education about these topics to help improve the health behaviors of youth.

## Play More Than Just Tennis

The findings in this report show that the benefits gained from sports participation increase when youth play more than one sport. About a quarter of youth tennis players only participate in one sport. We recommend that program leaders facilitate opportunities for tennis players to play other sports and, conversely, since tennis has so many great benefits, athletes from other sports should consider adding tennis as an additional activity or as a sport to participate in during their off-season. This will not only increase tennis participation, but also extend the benefits tennis players receive to other youth.

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