Artists and Athletes

Several articles in this issue touch on some of the more athletic components of the performing arts. The article by Twitchett et al. describes fitness aspects of ballet,[1] Gabrilo et al. discuss lung function in synchronized swimmers,[2] and we also learn about how one flutist prepared for a very difficult piece by exercising (and practicing) in the letter by Borkowski.[3] Of course, these are not the first articles in *MPPA* that look at performers as individuals who call on a variety of physical skills to create an artistic performance; examples of studies looking at both dancers and musicians dating back nearly a decade or more are easy to find.[4,5] And this column has drawn on certain concepts borrowed from the world of sports medicine on more than one occasion.[6–8] The connection between performing arts medicine and sports medicine is mentioned early on by Dr. Brandfonbrener in the new edition of *Performing Arts Medicine*.[9] In this editorial I will outline some of the similarities and differences between performing artists and athletes in an attempt to highlight opportunities for improving the health of performing artists in the future.

It may be useful to start with definitions. The word *athlete* is derived from an ancient Greek word that meant "compete for a prize," whereas *artist* is based on the Latin *ars*, which refers to a particular skill or technique that can be used to create something of beauty. *The American Heritage College Dictionary* defines *art* as "the conscious production or arrangement of sounds, colors, forms or other elements in a manner that affects the sense of beauty," while *athletics* is defined as "activities that require physical skill and stamina."[10] These definitions suggest that these two human activities are almost polar opposites: competition vs beauty.

Indeed, in most situations, it's easy to put a particular activity into either the "sports" or "arts" category. Baseball and soccer are clearly athletic pursuits, while playing the violin and ballet dancing are obviously performing arts. We keep score in most sports, disinterested third parties enforce various rules, and there is often a clock that determines when the activity begins and ends. Most importantly, there are almost always two or more individuals or teams competing against one another, and there is a winner and one or more losers. The performing arts are more focused on the expression of various emotional states and ideas, with less emphasis on competition, winning, and losing (auditions notwithstanding).

Historically, artists and athletes are viewed as being from two distinct subspecies. The stereotypical image of an athlete is often the "dumb jock," one who uses brute strength and little intelligence or creativity to make his way through life. Conversely, artists (including performing artists) are often stereotyped as sensitive, living in their own world, prone to excessive displays of emotion and rather wimpy. While stereotypes sometimes have their roots in certain reality-based characteristics of a given group of people, they are more likely to decrease the likelihood that an individual can reach his or her full potential.

Some may consider the distinction between performing artists and athletes to be artificial, since the activities of both groups are often used as forms of entertainment. This applies mainly to professional performers of both the artistic and athletic stripes, but it is also true for the marketing of major college sports in the USA. In addition, many participate in music, dance, other performing arts, and a wide variety of sports for their own entertainment. Both sports and the performing arts appeal to a wide variety of demographic groups, with some having more "mass appeal" and others having a smaller but no less dedicated following. Furthermore, some activities blur the distinction that many of us make between athletic and artistic endeavors: synchronized swimming and rhythmic gymnastics are sports with artistic components, while drum corps and various types of dance (not to mention playing Holliger's *(t)air(e)*^{3}) are examples of artistic performances that have significant athletic components.

Artists and athletes may actually have more in common than most people think. For example, both athletic activities and artistic performance have been shown to improve brain function. Readers of *MPPA* are likely well aware of research that indicates that listening to Mozart's music may induce a short-term improvement on the performance of certain kinds of mental tasks known as spatial-temporal reasoning (better known as "the Mozart Effect").[11] Another well-known example is Venezuela's publicly financed, voluntary sector music education program known as FESNOJIV (roughly translated as National Network of Youth and Children's Orchestras of Venezuela). Some 250,000 Venezuelan children, most from poor families, attend the music schools that are part of this network. Many of them become members of the 125 youth orchestras in the country.[12] A celebrated product of the program is Gustavo Dudamel, the 30-year-old music director of the Los Angeles Philharmonic.

In a similar way but probably less familiar to performing arts healthcare professionals, research has shown that students who participate in varsity

sports in high school actually do better academically than students who don't participate.[13] After controlling for dozens of potentially confounding factors, the researchers found a significant, though small, positive correlation between athletic participation and academic achievement. While the effect is not large, it is clearly in the opposite direction compared to what the "dumb jock" stereotype would have us believe.

Another relevant study was recently reported on PBS.[14] Students at an Illinois high school who were having difficulty in reading and math were enrolled in a program that started their school day in the gym. The goal was to increase their heart rates with treadmill or stationary bike exercise before their most difficult classes. After 6 years, the results have been impressive. On average, the students who exercised directly before reading comprehension class read half-a-year ahead of those who opted out of the program. In math, students who exercised before pre-algebra class improved two to four times more than their peers on standardized tests.

Those of us who are concerned with the health of performing artists are less worried about how similar or different athletes and artists are and more interested in how we can find models for the prevention and treatment of performance-related problems. One way we might be able to do that is to look to the world of athletes. It probably doesn't matter that athletes are more motivated by competition if they have found ways to reduce the likelihood of injury while pushing their physical capabilities to new heights. A few purists might believe that any focus on physical training would detract from the aesthetic aspects of the performance, but I'm not aware of any evidence to support that view. On the other hand, there is ample evidence that a substantial percentage of performing artists are unable to give any artistic interpretation due to physical injuries that have occurred as a result of the musicians' preparations for that performance.[15] Needless to say, we should be careful to choose athletic activities that have similarities to the performing arts as we look for models. In general, we will more likely find applicable concepts or programs in sports that have tried to reduce the number of repetitive motion injuries (as opposed to acute traumatic injuries).

There are probably other opportunities to improve the health of performing artists by borrowing from the successes of athletes. Let's not let stereotypes and unsupported beliefs get in the way.

RALPH A. MANCHESTER, MD
Rochester, New York
rmanchester@uhs.rochester.edu

1. Twitchett EA, Angioi M, Koutedakis Y, Wyon M: Do increases in selected fitness parameters affect aesthetic aspects of classical ballet performance? Med Probl Perform Art 2011;26(1):35–38.
2. Gabrilo G, Peric M, Stipic M: Pulmonary function in pubertal synchronized swimmers: 1-year follow-up results and its relation to competitive achievement. Med Probl Perform Art 2011;26(1):39–43.
3. Borkowski JA: Fit to play: the fitness effect on physically challenging flute repertoire. Med Probl Perform Art 2011;26(1):51–52.
4. Koutedakis Y, Pacy PJ, Carson RJ, Dick F: Health and fitness in professional dancers. Med Probl Perform Art 1997;12(1):23–27.
5. Ackermann BJ, Adams R, Marshall E: Strength or endurance training for undergraduate music majors at a university? Med Probl Perform Art 2002;17(1):33–41.
6. Manchester RA: Fatigue, performance, and overtraining [editorial]. Med Probl Perform Art 2010;25(2):47–48.
7. Manchester RA: Periodization for performing artists [editorial]? Med Probl Perform Art 2008;23(2):45–46.
8. Manchester RA: Musical instrument ergonomics. Med Probl Perform Art 2006;21(4):15–158.
9. Brandfonbrener A: Etiologies of medical problems in performing artists. In Sataloff RT, Brandfonbrener AG, Lederman RJ (eds): Performing Arts Medicine, 3rd ed. Narberth, PA: Science & Medicine; 2010; p25. Available at: www.sciandmed.com/tpam/PerformingArtsMedicine.aspx.
10. The American Heritage College Dictionary, 3rd ed. Boston: Houghton Mifflin; 1993.
11. Pryse-Phillips W: Companion to Clinical Neurology. Oxford: Oxford University Press; 2003: p611. ISBN 0195159381.
12. National System of Youth and Children's Orchestras of Venezuela: Center for Social Action Through Music [website]. Caracas, Venezuela: Gobierno Bolivariano de Venezuela; n.d. Available at: http://www.fesnojiv.gob.ve/en/center-for-social-action-through-music.html. Accessed Mar 1, 2011.
13. Marsh HW, Kleitman S: School athletic participation: mostly gain with little pain. J Sport Exerc Psych 2003: 25:205–228.
14. Students flourish hitting the gym, then the books [webpage]. PBS News Hour. Washington, DC: MacNeil-Lehner Prod.; Feb 14, 2011. Available at: http://www.pbs.org/newshour/extra/video/blog/2011/02/students_flourish_hitting_the.html. Accessed Mar 1, 2011.
15. Manchester RA: Looking at musicians' health through the "ages." Med Probl Perform Art 2009; 24:55–57.

https://doi.org/10.21091/mppa.2011.1001