

# The Need for a Scientific Approach to Our Sport

Contributed by Joe Slowinski  
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Ironically, the title of my monthly contribution to the Asian Bowling Digest suggests that bowling is a sport. And, from my 37 years of experience in this addictive enterprise of bowling, including 25 years as a coach, I believe bowling to definitely be a sport. Yet, the truth remains that bowling is understudied from a sport science perspective. We, as a tenpin community, really don't know much about what is needed to enhance human performance, whether it be an in-depth biomechanical or physiological understanding of bowling.

State of Our Sport

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With this in mind, it is time for a change. Consequently, I made a recent call to the international bowling community to join me in contributing to a scientific study of tenpin bowling as a sport. From a proposed Center for the Scientific Study of Tenpin Bowling to a new journal, The Science of Tenpin Bowling, I believe we need to increase our commitment to developing thorough scientific knowledge of bowling. True, it might be a grand plan to build the first comprehensive comprehension of our sport. Someone has to start this sometime and somewhere. I have made the call. But, will anyone respond.

I have received many supportive e-mail messages and have learned about a small but dedicated group of individuals from various parts of the world committed to the same thing, understanding. We might be small but we are certainly dedicated. But, from Australia to Sweden, there are others out their like me who are dedicated and passionate about helping to improve the image of bowling as a sport.

Without a sports science knowledge-based, the perceptions associated with bowling as a recreation will remain and our credibility limited. More importantly, with a lack of research-based fact associated with the sport, many coaches can assert claims that may or may not be true. It is time to eliminate the snake oil salesmen who prey on the unsuspecting federations or individual bowlers under their coaching charms. Unfortunately, I have met these coaches in all corners of our planet.

This lack of knowledge is also one of the reasons our efforts to secure a place in the biggest sporting show on earth failed. The International Olympic Committee elitists continue to view sports through their rose colored spectacles while allowing artistic &quot;sports&quot; like figure skating and rhythmic gymnastics into the big show. If we create a research-base to illustrate that bowling is a sport, then it can still happen at a later date.

As the Director of Coaching and Coach Certification for Tenpin Bowling at the National Sports Council of Malaysia, I have the opportunity to collaborate with sports scientists in the scholarly study of bowling as a sport. This includes the analysis of tenpin bowling from a biomechanical, physiological, psychological, fitness and nutrition perspective. With these available resources, I have recently proposed the creation of the Center for the Scientific Study of Tenpin Bowling. With such a project, Malaysia can become the dominant creator of new bowling knowledge in the entire world.

I am also leading a call for sports scientists and other researchers to contribute to a new publication, in the works, called The Science of Tenpin Bowling. The Science of Tenpin Bowling will focus on the following topics:

- Sport Medicine = prevention and treatment of bowling-specific injuries
- Sport psychology and bowling = effectiveness of the mental side of the sport (improving self-efficacy, etc.)
- Nutrition = impact of specific nutrition on performance
- Physiology and Fitness of bowling = impact of specific training methods on performance
- Coaching methods = bowling development methods and effectiveness
- Motor Learning = How do bowlers learns the movements of complex tasks?
- Biomechanics and Technique of Bowling / Human Movements Study

- Science of the Bowling Ball (ball motion impact of RG, Diff, MB, MB Diff, Surface, etc.)
- Science of the bowling environment (impact of humidity, friction, oil volume, etc.)
- Talent Identification = Are there specific things (anthropometry, mental, etc.) that will help federations identify bowling specific?
- Coach Development Models = How do coaches most effectively progress from a beginning to elite world-class coach?

And, here are some of the potential research questions that need to be answered: What is the anthropometry of elite bowlers, if there are any relationship between physical characteristics and elite performance? What are the specific ball reaction changes brought about by altering the axis of rotation, axis tilt, revolutions, speed and loft? What are the most effective psychological training techniques that produce improved focus? How effective is biofeedback training on reducing anxiety in tournament settings? What is the ideal fitness training program for elite bowling? What is the exact energy system for elite bowling and what is the most effective training to improve this system (i.e., ATP/CP, LA, Oxidative)? What strength training program has the most effectiveness for the above energy system and fitness development? What are the connection between fatigue and repeatability in elite and non-elite bowling? What are the biomechanical motions of elite bowlers? What training methods help to achieve these motions? How do we promote self-efficacy in elite bowling? What are the most effective coach development programs?

Asia is poised to become the leader in knowledge production associated with bowling as a sport. Since many Asian nations treat bowling as a sport, Asia can lead the way in understanding bowling as a sport. The infrastructure is in place with access to sports scientists and elite teams that train daily. Please talk with your federation and recommend that they help the cause. I am attempting to do my part by facilitating this study of tenpin bowling from a sport perspective. Rather than a continual consumer of tenpin research, the continent can become an avid producer, disseminating scientific truth to the rest of the world. Asia can actually lead the world in bowling research. The infrastructure is in place and dedicated people beginning the pursuit to understand.

With this knowledge, we can provide elite bowlers such as PBA members and those bowling on national teams with accurate training advice that will significantly improve their performance, from the mind to the body. And, this research-based knowledge will help anyone who is interested in training to become an elite player.

I hope to have The Science of Tenpin Bowling published on a quarterly basis. But, I need the help of sports scientists and others involved in the sport. What are we waiting for? Please join me in support this global call for original research and the effort to uncover the truths of bowling as a sport. I hope we are not too late&hellip;.the clock is ticking. We need to change the perception of bowling