

Declines in Ten-Pin Bowling Performance with Advancing Age

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A study published in the journal *Age and Ageing*, in October 2007, reveals that performance declines in bowling at an elite level are far less than other sports. Specifically, over a 50 year period, an elite (professional and master) bowler's performance will decline approximately 8%, far less than the norm of a 10% performance decline with each additional decade of a person's life with sports requiring significant cardiovascular endurance and muscular strength. And, the research confirmed that elite bowlers can maintain their best performances through the age of 45 where performance declines are first seen. This study demonstrates how important skill and technique are in the sport of bowling and that bowling is a sport that bowler's can be competitive over a lifetime. Click to read more about this important study.

Declines in Ten-Pin Bowling Performance with Advancing Age was recently published in the journal *Age and Ageing* in late October of 2007.

Researchers Allison Elizabeth Devan and Hirofumi Tanaka, of the Department of Kinesiology and Health at the University of Texas, analyzed scoring data of 147 elite bowlers. Scores and ages were collected from the 2002 PBA World Championships and the 2002 Senior World Championships. Only bowlers whose age could be determined were used in the analysis. Ages were found on the PBA web site or through an Internet search.

In an effort to determine a relationship between aging and performance, a correlational and regression analysis was completed. In short, this explores a mathematical relationships between two variables. Through such an analysis, researchers explore how a dependent variable changes (scoring) as an independent variable (age) changes. In this case, the researchers are determining how dependent performance (scoring) is on age.

Researches found that approximately 40% of the decline in performance can be attributed to age. Yet, the decline in performance was less than 10% over a 50 year period. Specifically, from the age of 20 to 70, the average decline in performance was actually 8%, or from 216 to 188. This is significantly less than the decline in other sports which normally sees a performance decline of 10% each decade older an individual becomes. Bowling performance declined in a curvilinear fashion. See the graph below….

The good news revealed in the study was that elite performance was maintained through approximately 45 years of age. This correlates well with the high performances of elite professionals like Pete Weber and Walter Ray Williams Jr. and others who continue to perform well on the PBA Tour well into their 40s. Compared to other sports, which depend on cardiovascular endurance and muscular strength, bowling skill is dependent upon skill and technique. With these findings, it demonstrates that some sports can be played at a high level throughout a lifetime. The rate of performance decline in bowling is far less than other skill-based tasks performed by older adults. Specifically, skill and technique is important in the sport of bowling.

Important Note: One limitation of the study is that only men's scores were used in this analysis.

A review of the current PBA players reveals that many of the top point earners on the PBA Tour are 40 to 45 years (8 of 15 are 40 to 48 years old). 60% of the Top 10 bowlers on the PBA Tour are older than 40. This also supports the findings of the researchers which revealed that elite bowlers can maintain a high performance through the age of 45. PBA Points Leaders, By Points as of February 5, 2008 BOWLERPOINTS (as of Feb 5)AGE1 Walter Ray Williams159,761.5048 (10/6/1959)2 Patrick Allen146,630.0037 (9/23/1970)3 Chris Barnes145,141.1737 (2/25/1970)4 Wes Malott138,633.5031 (10/26/1976)5 Parker Bohn III118,454.0044 (7/13/1963)6 Mike Scroggins116,820.5043 (3/12/1964)7 Sean Rash108,383.0025 (8/22/1982)8 Michael Haugen Jr102,781.6741 (12/29/1966)9 Mika Koivuniemi102,289.5040 (4/6/1967)10 Danny Wiseman101,468.0040 (9/24/1967)11 Chris Loschetter101,234.0027 (5/24/1980)12 Pete Weber100,822.0045 (8/21/1962)13 Rhino Page99,085.5025 (July 10, 1983)14 Tommy Jones92,201.0029 (11/2/1978)15

Steve Jaros92,015.5042 (8/24/1965)