

STANDARDIZED THROWING VELOCITY NORMATIVE VALUES FOR YOUTH BASEBALL PLAYERS



ABSTRACT

PURPOSE: The purpose of this study was to investigate the standardized throwing velocity of youth baseball players. **METHODS:** Six hundred and six (606) male youth baseball players were measured for peak throwing velocity using a standardized testing protocol utilized by the Baseball/Softball Athletic Testing System (BATS). The participants attended a national baseball academy in Orlando, Florida and included the following age groups: age 13 (n=77), age 14 (n=98), age 15 (n=138), age 16 (n=158), and age 17 (n=135). Peak throwing velocity was measured by a commercial radar gun in miles per hour (MPH). Subjects were permitted a complete warm-up period prior to making five maximum throws. All subjects were required to throw on flat ground from the pitcher's traditional stretch position. Unlimited leg lift and stride were allowed but no pre-steps were permitted. The best of five trials was recorded in tenths of MPH. **RESULTS:** Descriptive statistics were utilized to calculate standardized peak throwing velocity normative values for each age group. The means and standardized deviations are as follows: age 13 (57.7 ± 6.0 MPH), age 14 (62.3 ± 5.8 MPH), age 15 (66.6 ± 6.5 MPH), age 16 (68.9 ± 6.2 MPH), and age 17 (73.1 ± 6.4 MPH). **CONCLUSIONS:** The results of this investigation provide valuable descriptive data that can be utilized to generate detailed normative reference values. **PRACTICAL APPLICATIONS:** Coaches, players, and strength and conditioning professionals wishing to increase the throwing velocity of youth baseball players can use standardized testing and normative values to assess the effectiveness of their strength and conditioning programs.

INTRODUCTION

- Throwing and arm strength are necessary skills used in all baseball positions.
- **PURPOSE:** to investigate the standardized throwing velocity of youth baseball players.

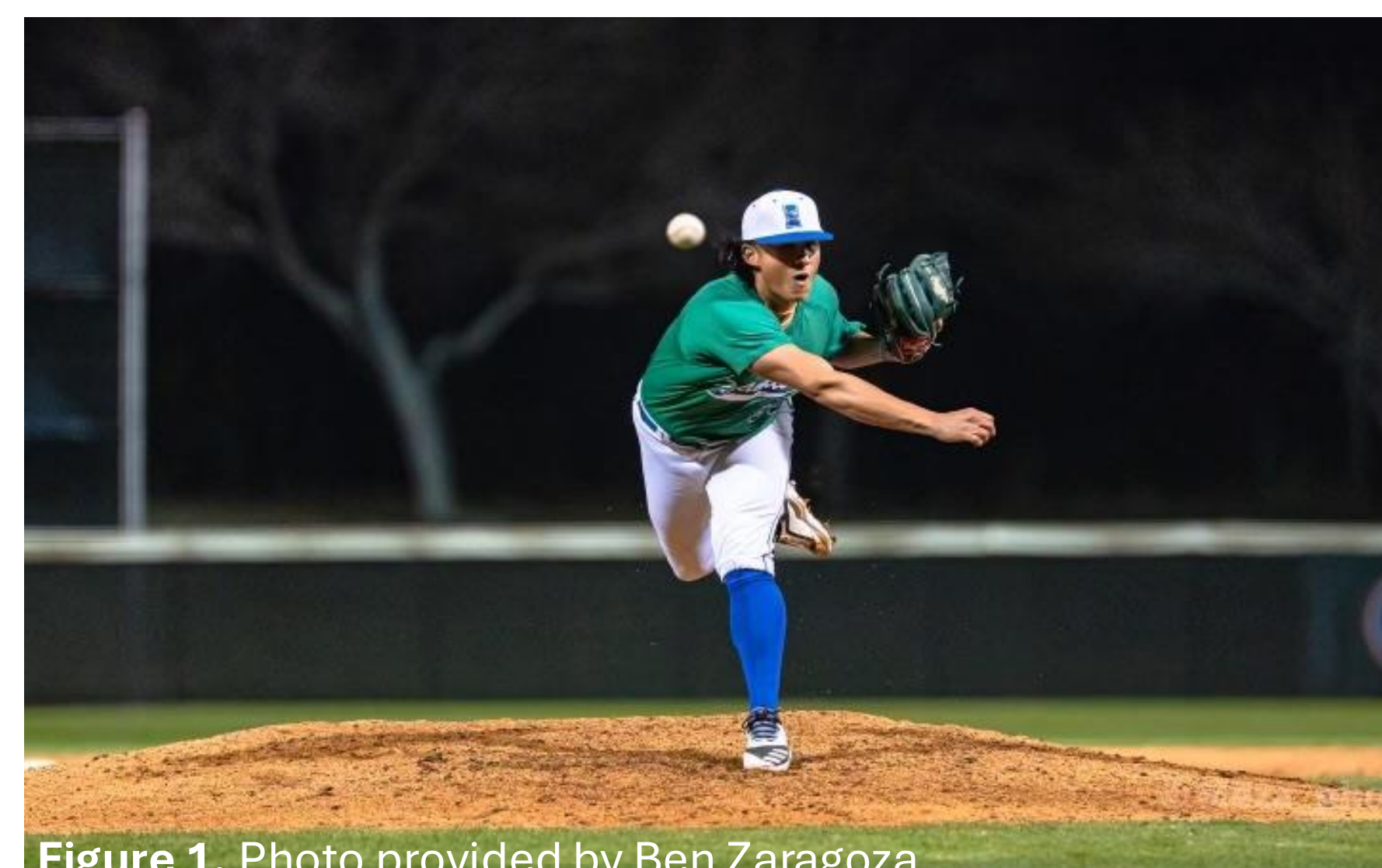


Figure 1. Photo provided by Ben Zaragoza.

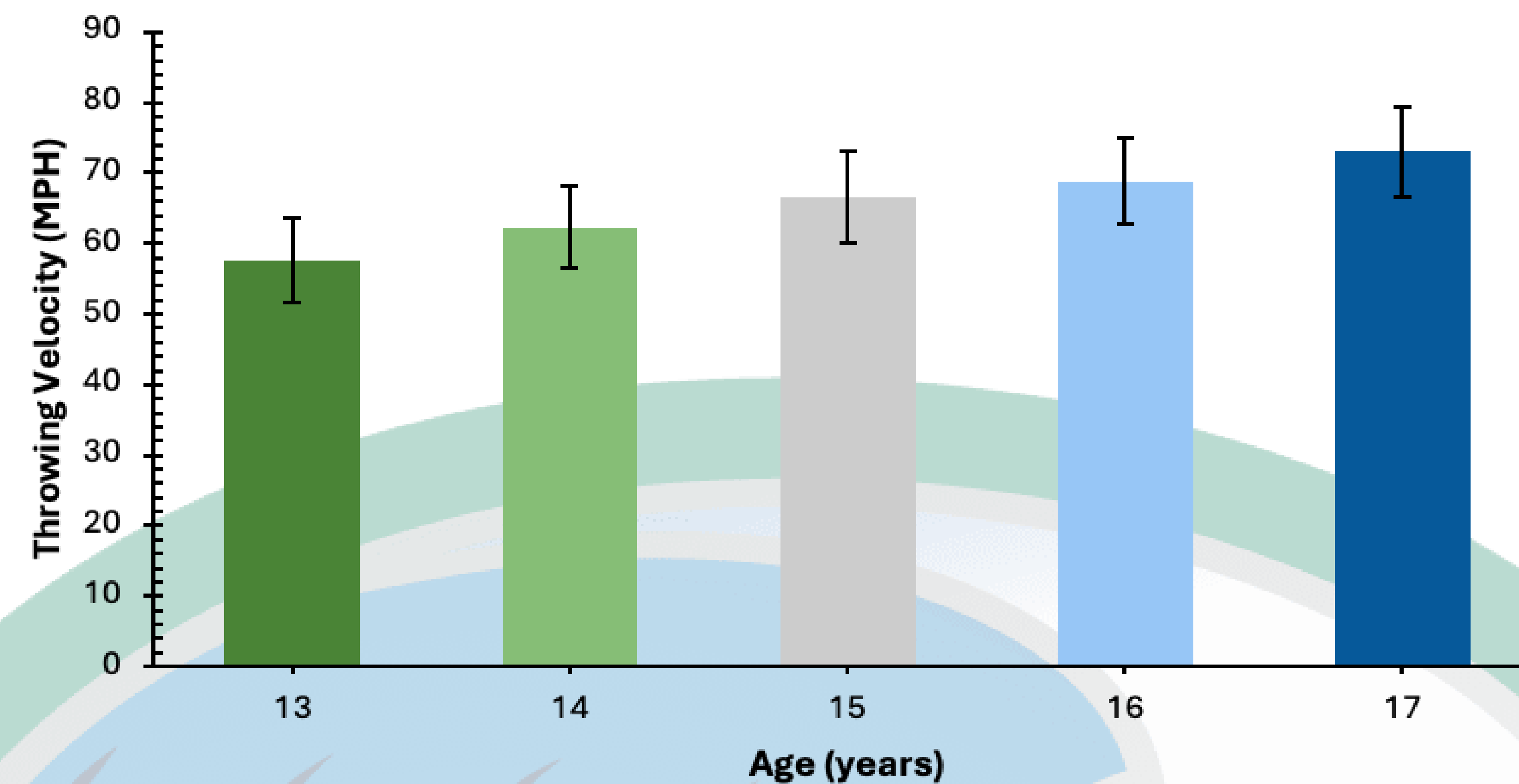


Figure 2. Average Throwing Velocity for Youth Baseball Players Aged 13-17 (n= 606).

METHODS

- Participants (n=606) attended a national baseball academy in Orlando, FL.
- Evaluated using the **Baseball/Softball Athletic Testing System (BATS)**, a collection of tests measuring:
 - Body Composition
 - Muscular Strength
 - Power
 - Agility
 - Speed
 - Batted Ball Velocity
 - **Throwing Velocity**
 - Measured with a commercial radar gun (MPH)
 - Complete warm-up period
 - Throw from flat ground in the pitcher's traditional stretch position
 - Unlimited leg lift and stride but no pre-steps, shuffle, or crow hop.
 - Best of 5 maximal effort throws

- Standardized peak throwing velocity normative values were found using mean and standard deviation.

RESULTS

- Throwing velocity increased with age.

Table 1. Average Throwing Velocity for Youth Baseball Players Aged 13-17 (averages displayed as M ± SD).

Age	Sample Size (n)	Throwing Velocity (MPH)
13	77	57.7 ± 6.0
14	98	62.3 ± 5.8
15	138	66.6 ± 6.5
16	158	68.9 ± 6.2
17	135	73.1 ± 6.4

CONCLUSIONS

- The results of this investigation provide valuable descriptive data that can be utilized to generate detailed normative reference values.

PRACTICAL APPLICATIONS

- Coaches, players, and strength and conditioning professionals wishing to increase the throwing velocity of youth baseball players can use standardized testing and normative value to assess the effectiveness of their strength and conditioning programs.