Analysis of Five Track Event Performances at the Drake Relays by Age and Gender, 1978-2008

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INTRODUCTION

The main objective of the study was to identify changes in the performance times of athletes over an extended period of time by age and gender during Drake Relays track events.

Our hypothesis was that the performances of all of the groups would increase over time. It was hypothesized that males would overall perform better (faster times) than their female counterparts in both age groups, because of greater muscular strength and a physiologically higher aerobic capacity (1,2). However, we also hypothesized that females would demonstrate greater improvements in performance compared to males.

In the past, it was believed that females may narrow the “gender gap” in running performance over time, eventually “outrunning” men (3). This was based on trends seen beginning in the 1990s showing that women were improving faster than men. However, more recent studies have suggested that this gap will never narrow due to biological differences between the genders (4).

METHODS

Performance times were inputted manually into Microsoft Excel from both race results packets as well as The Des Moines Register. Professional (non-college-associated) athletes or athletes competing out of their age/school range were excluded from analysis. The top 10 performance times were taken for each event by age and gender. Not all ages/genders participate in all events, or for the full 31 years this study includes. Sometimes 10 performances were not available for a given event by age/gender. In total, we collected 4583 data points (see Table 1). Databases were inputted into Statistica v. 9 (Tallahassee, FL). Linear regression equations and p-values were determined for each event by age and gender separately.

REFERENCES