

# Upon further review: The role of travel in shaping performance. An investigation into nations' success in the Commonwealth Games

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## Aim of paper and research questions

Academic literature is inundated with studies that investigate the existence of, and quantify, home advantage in sport. However, research focusing on the causal mechanisms by which such an advantage is said to occur is less developed. The purpose of this paper is to present the findings from research designed to examine the relative impact of travel on performance, particularly in the context of the Commonwealth Games.

## Literature review

Following on from the pioneering work of Courneya and Carron (1992), studies on home advantage in sport have mainly sought to explain the phenomenon by the existence of three contributory factors: namely, the positive influence of the crowd, the impact of travel on visitors and the home teams' familiarity with local conditions. However, in many instances there is a genuine lack of 'credible' statistical evidence to support the theoretical logic for home advantage.

In respect of the above, this research builds on previous exploratory work conducted by Wilson & Ramchandani (2008), which suggested that the respective performances of the eight nations that have hosted the Commonwealth Games were, without exception, negatively correlated with travel, that is, performance deteriorated the further these nations travelled away from home territory. The line of enquiry has now been extended to all nations that have competed in the Commonwealth Games in the post-war era (covering 15 editions of the event), with some interesting results.

## Research design and data analysis

### *Scope*

Since 1950, 78 nations have sent a team to the Commonwealth Games. Some territories have subsequently merged whilst others are no longer part of the Commonwealth alliance. For the purpose of this research, 23 nations were exempt from the analysis on the basis that they only contested one edition of the event and therefore there is no alternative point of reference available for these nations against which to relate their performance with travel to the host location (e.g. Belize, Brunei, Gibraltar and Sierra Leone). In this regard, the findings relate to 55 'eligible' nations.

### *Performance Measurement*

Performance for each nation across each edition was measured in terms of market share - a standardised measure of total achievement - whereby the total medals won in an edition are converted into points (gold = 3, silver = 2 and bronze = 1) and the points won by a given nation are subsequently expressed as a percentage of the total points available.

### *Test of Association*

Using the number of time zones crossed as an indicator of distance travelled, we plotted each nation's performance (market share) against the corresponding travel factor (time zone difference from the host nation). The distribution of the data points and the slope of the trend line revealed the nature and strength of association between the two variables of interest.

### **Results**

Overall, the analysis has revealed an inverse association ( $r < 0$ ) between distance travelled and performance for 38 (69%) out of the 55 eligible nations. In other words, for the majority of nations, success in the event diminishes with travel. The magnitude of the correlation varies by nation and by broad geographic region. For example, the finding  $r < 0$  was more widespread amongst Commonwealth nations from Africa and Europe (78%) relative to those from Americas / Caribbean (67%) and Asia / Oceania (56%). Nations that did not exhibit an inverse relationship between travel and performance (i.e. where  $r > 0$ ) were found to be generally those with relatively modest success in the Commonwealth Games (e.g. Cayman Islands, Jersey, Norfolk Island and St. Vincent and The Grenadines).

### **Discussion and conclusion**

The findings from this investigation are relevant in two key regards. First, they contribute to the debate on the causes of home advantage in elite sporting competitions. Second, from a policy standpoint, the findings enable nations to set pragmatic aspirations for success, especially in the context of the Commonwealth Games, allowing for any 'performance loss' associated with travel to the host location.

### **References**

- Courneya, K.S., & Carron, A.V. (1992). The home advantage in sport competitions: A literature review. *Journal of Sport and Exercise Psychology*, 14, 13-27.
- Wilson, D.J., & Ramchandani, G. (2008). *Proceedings of the 16th Congress of the European Association for Sport Management*. Heidelberg.