

Home ground advantage – fact or fallacy? A comment on the 2004 Super 12 rugby competition

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Abstract

Objective. The aim of this study was to determine whether there was an advantage to playing at home in the 2004 Rugby Union Super 12 competition. The question was relevant because this unusual competition involved travelling across time zones during the competition, potentially negating any home ground advantage caused by fatigue from travel and changing time zones.

Main outcome measure. The mean points difference (points for the team minus points against the team) for 'home' and 'away' fixtures was calculated for each team before the semi-final stage of the competition.

Result. Combined results for all 12 teams showed that the points difference was positive and significantly greater at 'home' than 'away' fixtures (7.4 ± 6.9 points v. -7.4 ± 7.9 points, home v. away) ($p < 0.05$).

Conclusions. The combined mean positive points difference at home indicates a home ground advantage, and that on average teams scored more points than their opposition when playing at home. This has implications for the 'fairness' of the competition as 6 teams had 6 home matches whereas the other 6 teams had 5 home matches in the 2004 Super 12 competition.

Introduction

Much research in competitive sport has focused on the possible advantages^{1,4-8,10,12} and disadvantages^{3,11} associated with being the home or visiting team. When tournaments involve games played under a balanced home-and-away schedule there is compelling evidence that home advantage exists.⁶ Courneya and Carron² suggest that future research should be directed towards the cause of such an advantage rather than merely trying to prove its existence. Subsequently Nevill and Holder⁹ identified four factors that may influence home advantage, viz. crowd, familiarity with local conditions, travel

and rules. They concluded that crowd factors contribute the most to a home advantage. However, a supportive audience may cause a state of self-attention that can interfere with the execution of skilful responses¹ and may have a negative effect on performance. This perhaps explains why home ground advantage changes in accordance with the varying conditions.

Although many studies have shown that a home ground advantage exists in team sports like rugby,^{1,6,8,10} the Rugby Union Super 12 competition is a unique sporting event that has not been studied systematically for a home ground advantage despite frequent discussions in this regard by TV commentators, fans and players. During the 12-week competition in 2004 teams from Australia ($N = 3$), New Zealand ($N = 5$) and South Africa ($N = 4$) competed in an unbalanced home-and-away tournament in which 6 teams played 5 home games and the other 6 teams played 6 home games. In addition, teams toured across several time zones to play matches, often returning from such a trip to play a home game. Under these conditions the advantages of playing at home may be negated by the disadvantages associated with fatigue resulting from travel and changing time zones.⁷

Accordingly, the aim of this study was to determine whether there was any advantage to playing at home in the 2004 Super 12 rugby competition.

Methods

Scores were obtained from a website⁹ for all the matches before the semi-final phase of the 2004 Super 12 Rugby Union competition for all the teams, from Australia ($N = 3$), New Zealand ($N = 5$) and South Africa ($N = 4$). During this phase of the competition each team played once against each of the other 11 teams. Some teams played 6 home matches ($N = 6$), and other teams played 5 home matches ($N = 6$). A 'home or away' point's difference, the difference between points scored and conceded, was calculated for each team for every match. An analysis of variance (ANOVA) with repeated measures was used to determine differences between teams and home versus away games (Statistica version 6.0, Tulsa, USA). A Tukey HSD test was used for *post hoc* analysis. Statistical significance was accepted as $p < 0.05$. Data are expressed as mean \pm standard deviation (SD).

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TABLE I. The 2004 Super 12 rugby log before the semi-final play-offs, at which stage each team had played every other team. Most of the bottom-finishing teams played 5 home matches, while most of the top-finishing teams played 6 home matches

Team	Played	Won	Drew	Lost	Points for	Points against	Points difference	Home games	Away games	Bonus points	Points
Brumbies	11	8	0	3	408	269	139	6	5	8	40
Crusaders	11	7	0	4	345	303	42	6	5	6	34
Stormers	11	7	0	4	286	260	26	5	6	5	33
Chiefs	11	7	0	4	274	251	23	6	5	5	33
Blues	11	6	1	4	337	309	28	5	6	6	32
Bulls	11	5	1	5	302	320	-18	6	5	6	28
Sharks	11	5	0	6	267	305	-38	6	5	8	28
Waratahs	11	5	0	6	342	274	68	5	6	7	27
Highlanders	11	4	1	6	299	347	-48	5	6	8	26
Reds	11	5	0	6	217	246	-29	6	5	5	25
Hurricanes	11	4	1	6	275	303	-28	5	6	5	23
Cats	11	1	0	10	294	459	-165	5	6	7	11

Results

Table I shows the 2004 Super 12 rugby results log before the semi-final playoff matches, at which time each team had played every other team in the competition. Four of the bottom 6 teams on the log had played 5 home games, whereas 4 of the top 6 teams had 6 home games.

Fig. 1 shows the mean 'home' and 'away' points difference for each rugby team during the 2004 Super 12 competition. The 'away' points difference for the Bulls, Highlanders, Reds, Hurricanes and Cats was significantly different from the 'home' points difference achieved by the Brumbies ($p < 0.05$). The 'away' point's difference of the Highlanders and Cats was also significantly different from the 'home' points difference for the Waratahs ($p < 0.05$).

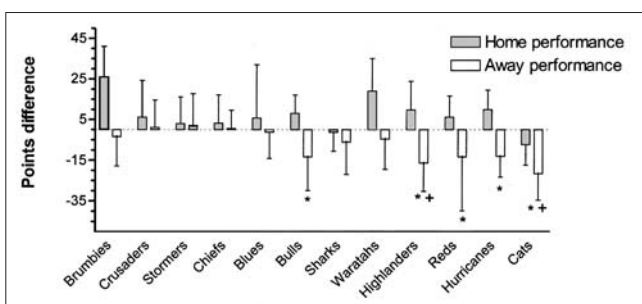


Fig. 1. The 'home and away' points difference for each rugby team during the 2004 Super 12 competition (* points difference was significantly different from Brumbies home points difference ($p < 0.05$); + points difference was significantly different from Waratahs home points difference ($p < 0.05$)).

Fig. 2 shows that the mean home points difference for all the Super 12 teams was significantly greater than the mean away points difference, viz. 7.4 ± 6.9 points v. -7.4 ± 7.9 points respectively ($p < 0.05$).

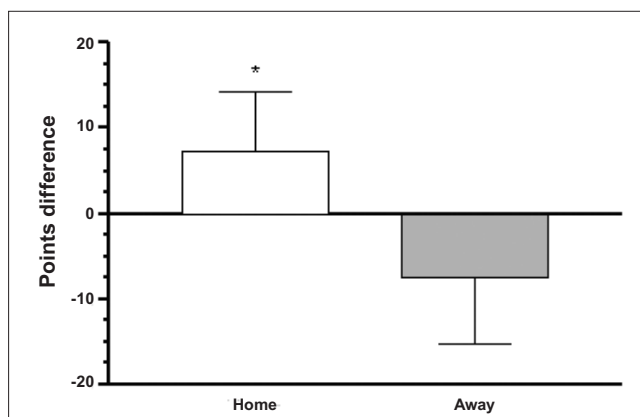


Fig. 2. The 'home' and 'away' points difference for all Super 12 teams (* significant difference between home and away groups ($p < 0.05$)). Values expressed as mean \pm SD.

Discussion

The first finding of the study showed that in the 2004 Super 12 competition the mean home points difference was positive and significantly greater than the mean away points difference, which was negative ($p < 0.05$). This finding suggests a home ground advantage, indicating that teams outscore their opponents when playing at home.

The second finding of this study was that there was an association between the number of home games played and overall position in the tournament. Table I shows the log position of the Super 12 rugby competition before the semi-final play-offs. The majority of the bottom 6 teams had fewer home ground matches ($N = 4$) than the majority of the 6 top finishing teams ($N = 4$), supporting the evidence that there may be an advantage to playing more home games.

Examining each individual team's average 'home' and 'away' points difference showed that most teams had a positive

home points difference (the Sharks and Cats the exceptions) and a negative away points difference (with the exception of the Crusaders, Stormers, Chiefs, and Blues). Note that the 2nd, 3rd and 4th teams had positive away points differences. The Brumbies, who were top of the log, had a negative away points difference. The fact that they had the highest positive points difference at home cancelled their negative away points difference.

Based on these findings, playing more rugby matches at home in the 2004 Super 12 competition increased the probability of the team doing well in the competition. It will be interesting to observe the results in next year's competition where most of the lower-placed teams in 2004 will have more home games and vice versa. These findings should be interpreted in the context that teams vary from year to year and a comparison between two subsequent competitions may therefore be affected.

In summary, an analysis of points scored in the 2004 competition suggests that the home advantage appears to have a positive influence on points scored for the home team. However, to draw more definitive conclusions a study considering all the confounding factors should be designed to answer this question comprehensively. Therefore, at this stage the debate over home/away advantage continues.

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