



Rested or Rusty?

Analyzing the Impact of NBA Schedules on On-Court Performance

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INTRODUCTION

- Focused on the impact of the condensed NBA playing schedule on a teams on court performance
- How do limited rest days between games change performance?
- Literature shows that the NBA has altered schedules to address the player's lack of rest
 - Back-to-back games still represent approximately 15% of all games
- Studies show that player performance is impacted by a tightly packed schedule
 - Decrease in reaction time and accuracy
 - Increase in injuries and illnesses, proven through the COVID bubble season
- Traveling between time zones can also impact on court performance
- Background research suggested that the condensed schedule would negatively impact athletic performance, ultimately decreasing a team's winning percentage

HYPOTHESIS

- As the amount of rest days an NBA team has prior to a game increases, the team's probability of winning that game will increase

METHOD

- Analysis of schedules from the past 5 full NBA seasons
- Hierarchical Regression Model utilized to investigate the potential influence of rest days on teams' on-court performance, using overall win percentage as the measure
- Predictor variables: '3+ Rest Days,' '2 Rest Days,' '1 Rest Day,' '3 Games in 4 Days,' and 'Back-to-Back Games'
- '3 Games in 4 Days & Back-to-Back Game' was left out as a reference variable
- Number of games played and adjusted efficiency differential (AED) measures for each variable type

DESCRIPTIVE STATISTICS

Table 1.

Descriptive Statistics

Variable	n	Minimum	Maximum	Mean	Std. Deviation
Overall Win Percentage (%)	150	17.33	79.78	48.759	14.907
3+ Rest Days	150	2	8	4.500	1.330
2 Rest Days	150	2	21	11.45	3.656
1 Rest Day	150	28	48	38.37	3.945
3 Games in 4 Days	150	5	16	9.76	2.222
Back-to-Back Games	150	0	8	3.66	1.775
Adjusted Efficiency Differential with 3+ Rest Days	150	-37.1	27.9	-.143	11.696
Adjusted Efficiency Differential with 2 Rest Days	150	-26.8	25.4	.830	9.358
Adjusted Efficiency Differential with 1 Rest Day	150	-18.4	16.4	.387	8.449
Adjusted Efficiency Differential with 3 Games in 4 Days	150	-22.9	18.0	.006	8.855
Adjusted Efficiency Differential with Back-to-Back Games	150	-35.7	28.0	-.917	11.522

RESULTS

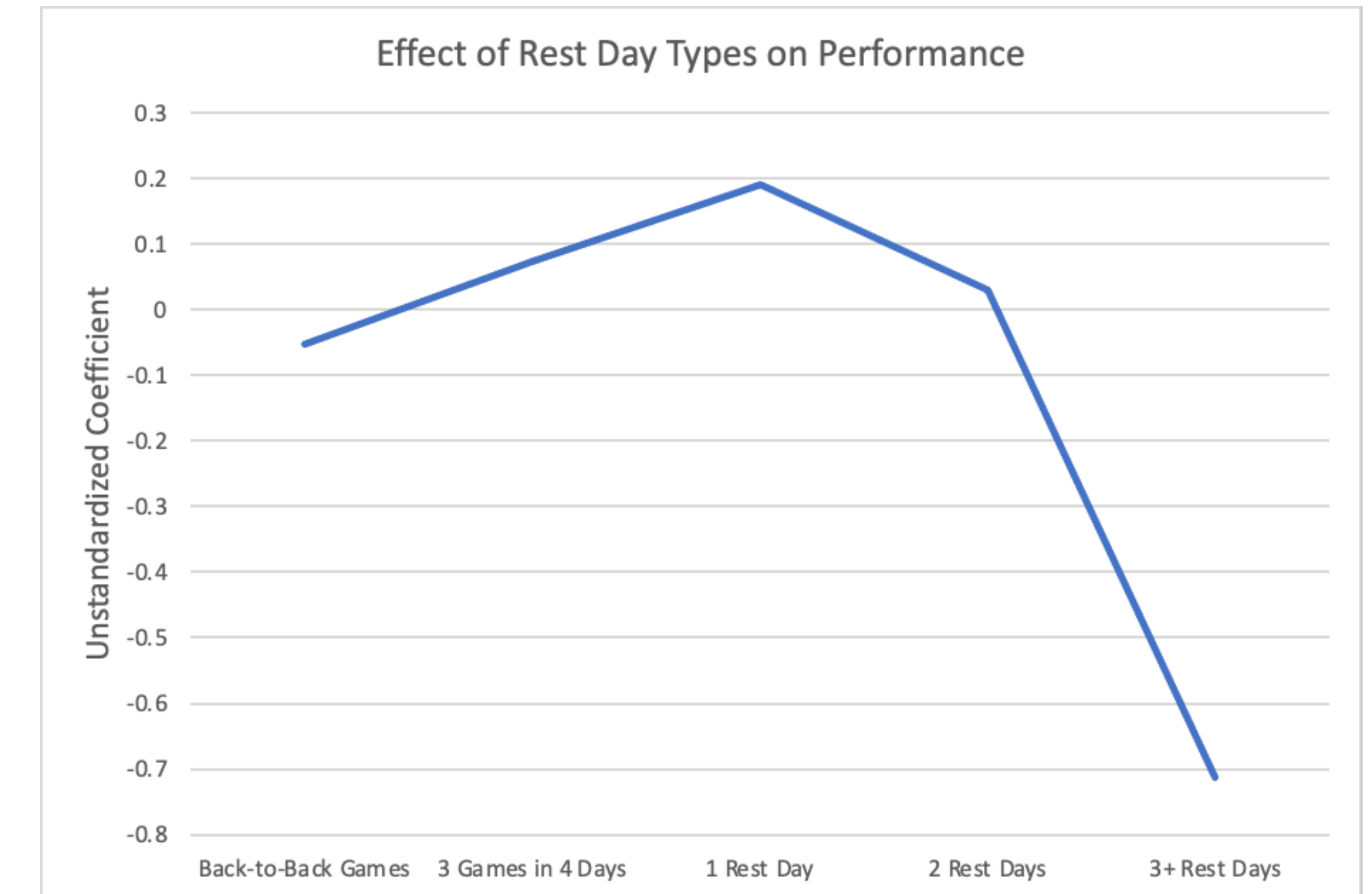
- Our model explains 78.5% of the variance in on-court performance
- Opponent quality and location (home or away) were more significant indicators of whether a team won
- Teams with 1 day of rest had the greatest chance of winning the game, contrary to our hypothesis

Table 2.

Hierarchical Regression Analysis Results

Predictor Variables	Model 1	Model 2
<i>Opponent- and Location-Related</i>		
Adjusted Efficiency Differential with 3+ Rest Days	.456**** (6.276)	.459**** (6.251)
Adjusted Efficiency Differential with 2 Rest Days	.177* (1.689)	.176 (1.591)
Adjusted Efficiency Differential with 1 Rest Day	.269* (1.752)	.283* (1.779)
Adjusted Efficiency Differential with 3 Games in 4 Days	.327*** (2.754)	.307** (2.540)
Adjusted Efficiency Differential with Back-to-Back Games	.316**** (5.034)	.314**** (4.925)
<i>Rest-Related</i>		
3+ Rest Days		-.713 (-1.432)
2 Rest Days		.029 (.136)
1 Rest Day		.190 (.989)
3 Games in 4 Days		.073 (.209)
Back-to-Back Games		-.052 (-.137)
F-statistics	101.897****	50.684****
R ²	.780	.785
ΔR ²	.780****	.005

Note: Unstandardized coefficients reported (β); t-values in parentheses; * p < .10; ** p < .05; *** p < .01; **** p < .001



CONCLUSIONS

- Excess rest days and a lack of rest days have a similar, negative effect
 - Peak performance comes after 1 day of rest between games
 - Teams are out of practice and "rusty" after 3+ days of rest
 - Teams are worn out with multiple consecutive games without rest

RECOMMENDATIONS

- Sleep disturbances among NBA players and staff
 - Professional sleep clinicians to help address fatigue concerns
 - Implementation of recovery strategies
- Reevaluation of NBA schedule
 - Team load management decisions
- Future research
 - Game by game data (rather than season long data)
 - Examine win streaks, individual game performance in differing rest scenarios