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## Data-Driven Analysis of Scoring Methods and Match Outcomes in Elite Men's Indoor Hockey

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### ABSTRACT

**The purpose of the study.** Performance analysis has become an essential approach in modern sport science for identifying game-related indicators associated with competitive success. However, empirical evidence regarding scoring patterns and match outcomes in elite men's indoor hockey remains limited, particularly within Southeast Asian competitions. This study aimed to analyze the association between dominant scoring methods and match outcomes in men's indoor hockey during the 2025 SEA Games.

**Materials and methods.** This study employed a quantitative observational design using a notational performance analysis approach. Match data were collected from official competition recordings and match statistics from the men's indoor hockey tournament at the 2025 SEA Games. Scoring methods were categorized into field goals, penalty corners, and penalty strokes. Descriptive statistics were used to identify the frequency and distribution of scoring patterns, while Chi-square analysis was conducted to examine the association between scoring dominance categories and match outcomes. Statistical significance was established at  $p < 0.05$ .

**Results.** The findings revealed that field goals were the most dominant scoring method throughout the tournament and were more frequently associated with winning teams compared with losing teams. Winning teams demonstrated higher scoring efficiency and greater offensive effectiveness, particularly in open-play situations. The Chi-square analysis indicated a significant association between scoring dominance categories and match outcomes, suggesting that scoring patterns play an important role in determining competitive success in elite indoor hockey. The mosaic plot visualization further demonstrated clear differences in scoring distributions between winning and losing teams.

**Conclusions.** The study concludes that dominant scoring patterns, particularly field-goal effectiveness, are significantly associated with successful match outcomes in elite men's indoor hockey. These findings provide valuable evidence for coaches and performance analysts in developing data-driven tactical strategies and contribute to the growing literature on sport analytics and performance analysis in indoor hockey.

**Keywords:** indoor hockey; performance analytics; set-piece efficiency; tactical analysis; SEA Games; elite sport.

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## INTRODUCTION

## MATERIALS AND METHODS

## RESULTS

## DISCUSSION

## CONCLUSION

<sup>abcde</sup>Authors' Contribution: a-Study design; b-Data collection; c-Statistical analysis; d-Manuscript preparation; e-Funds collection.

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