

The background of the cover is an abstract, high-energy image. It features a blurred figure of a person, likely a runner, in motion. The figure is overlaid with vibrant, streaky light trails in shades of teal, blue, and orange, creating a sense of speed and dynamic movement. The overall composition is energetic and modern.

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EXTENDED ABSTRACT

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IMPACT OF ANTI-SLIP SOCKS ON AGILITY AND SPEED PERFORMANCE AMONG MALE FUTSAL PLAYERS

Muhammad Atif Azamuddin Mohd Azmi¹, Raja Nurul Jannat Raja Hussain¹, Maisarah Shari², Muhamad Noor Mohamed¹, Mardiana Mazaulan¹, Muhamad Safiq Saiful Annur¹, Mohd Aizzat Adnan¹, Nurul Ain Abu Kassim¹, & Noor Azila Azreen Md Radzi^{1*}

¹Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Negeri Sembilan Branch, Seremban Campus, Negeri Sembilan, MALAYSIA

²Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Shah Alam Campus, Selangor, MALAYSIA

*Corresponding author: azila_azreen712@uitm.edu.my

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I. INTRODUCTION

Footwear and socks play a crucial role in sports performance, particularly in agility and speed. Given the high incidence of ankle sprains in futsal, exploring ways to enhance stability is essential [1]. This study compares the effects of anti-slip socks and standard socks on agility and speed among UiTM Negeri Sembilan futsal players to determine their impact on performance.

II. METHODS

This experimental study involved 24 male UiTM Negeri Sembilan futsal players (aged 19–24). Speed and agility were assessed using the 30-meter sprint and Illinois agility test. Each participant completed both tests wearing standard socks first, with a 10-minute rest between trials. After a one-day recovery, the tests were repeated with anti-slip socks to compare performance differences.

III. RESULTS AND DISCUSSION

An analysis of Paired sample t-test revealed that agility performance improved significantly with anti-slip socks ($M = 14.21s$) compared to standard socks ($M = 18.55s$, $p < 0.05$). The superior grip likely reduced slipping, enabling quicker direction changes. Enhanced foot stability may have improved control, leading to better agility [2]. Psychological confidence in traction support might have also influenced performance, reinforcing the advantage of anti-slip socks.

On the other hand, speed performance was also significantly better with anti-slip socks ($M = 3.05s$) than standard socks ($M = 3.67s$, $p < 0.05$). Reduced slippage likely improved force application, enabling greater acceleration. The increased stability may have allowed players to generate more efficient propulsion. The strong statistical significance confirms anti-slip socks' effectiveness in enhancing sprint speed, supporting their potential as a performance-enhancing gear for futsal athletes [3].

TABLE I

COMPARISON BETWEEN STANDARD SOCKS AND GRIP SOCKS ON AGILITY AND SPEED AMONG UiTM FUTSAL PLAYERS.

Variable		Mean	N	SD	t	Sig.
Agility	Standard Sock	0.060	24	0.126	15.7	0.001
	Anti-slip Sock					
Speed	Standard Sock	4.338	24	1.336	23.5	0.001
	Anti-slip Sock					

* $p < 0.05$

IV. CONCLUSIONS

Anti-slip socks significantly enhance agility and speed performance among futsal players, likely due to improved grip and stability. These findings suggest that anti-slip socks can be a beneficial performance aid. Future research should explore their long-term effects and potential injury prevention benefits to further validate their advantages.

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