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The Relationship Between Warm-Up Exercises and Physical Performance Among Recreational Athletes

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I. INTRODUCTION

Warm-up exercises are widely recognized as an essential component of physical activity and sports participation. Proper warm-up routines are believed to enhance muscle readiness, increase blood circulation, improve flexibility, and reduce the risk of injury [1][2]. In recreational sports settings, warm-up practices are often influenced by individual intention and perceive importance rather than structured performance protocols [3]. Previous studies have suggested that warm-up activities may positively influence physical performance by improving physiological and psychological readiness [4][5]. However, limited evidence exists regarding the relationship between warm-up intention and perceived physical performance among recreational athletes, particularly within Malaysian university populations. Therefore, this study aimed to examine the relationship between warm-up intention and perceived physical performance among recreational athletes at Universiti Teknologi MARA (UiTM) Seremban.

II. METHODS

A quantitative cross-sectional survey design was employed in this study. A total of 360 UiTM Seremban students who actively participated in recreational sports were recruited. The sample size was determined using the Krejcie and Morgan [6] table based on an estimated population of approximately 6,000 students. Data were collected using a structured self-report questionnaire adapted from the Intention for Warm-Up among Children and Adolescents Scale [7], modified to suit recreational athletes. The questionnaire consisted of items measuring warm-up intention and perceived physical performance using a Likert scale format. Data were analysed using JAMOV software. Descriptive statistics were calculated to determine mean and standard deviation values. Pearson correlation analysis was conducted to examine the relationship between warm-up intention and perceived physical performance. Statistical significance was set at $p < .05$.

III. RESULTS AND DISCUSSION

The findings indicated that the mean score for warm-up intention was 3.45 ($SD = 0.53$), reflecting a moderate level of agreement among respondents regarding the importance of performing warm-up exercises. Meanwhile, the mean score for perceived physical performance was 4.29 ($SD = 0.59$), suggesting that most participants reported high levels of perceived performance during recreational sports activities.

TABLE I
RELATIONSHIP BETWEEN WARM UP AND PHYSICAL PERFORMANCE

	Statistic	Physical Performance
Warm-up Intention	Pearson's r	0.164
	df	283
	p-value	0.006

Pearson correlation analysis revealed a statistically significant but weak positive relationship between warm-up intention and perceived physical performance ($r = 0.164$, $p = 0.006$). Although the relationship was significant, the strength of the correlation indicates that warm-up intention contributes only minimally to perceived physical performance. These findings suggest that while individuals who demonstrate stronger intentions to perform warm-up exercises tend to report better perceived physical performance, other factors such as fitness level, training frequency, motivation, and psychological readiness may also influence performance outcomes [4]. Overall, the study highlights the importance of promoting consistent warm-up practices among recreational athletes to enhance physical preparedness and exercise confidence. Future research may explore additional variables that contribute to performance improvements in recreational sports settings.

IV. CONCLUSIONS

This study concludes that there is a statistically significant but weak positive relationship between warm-up intention and perceived physical performance among recreational athletes at UiTM

Seremban. Although participants reported moderate warm-up intention and high perceived performance, the findings suggest that warm-up intention alone is not a strong predictor of performance, as physical performance is influenced by various factors such as fitness level, training experience, motivation, and injury history. Therefore, warm-up should be viewed as an important preparatory practice, and future research should include objective performance measures and experimental designs to better examine its direct effects.

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