

# Biomechanics research on martial arts – the importance of defensive study

**Authors' Contribution:**

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Manuscript Preparation
- E Funds Collection

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## Abstract

**Background & Study Aim:** Martial art is a self-defence art. Nevertheless, most martial art biomechanics studies have concentrated more on the offensive rather than on the defensive aspect of it. An in-depth study of defensive techniques is equally important since the real application of self-defence requires an individual to defend first and counter-attack second. The disproportionate trend of current studies needs to be validated to support future research. The purpose of this paper are trend of research and publications pertaining to defensive techniques in martial arts biomechanics.

**Material & Methods:** A systematic survey of research publications was conducted in the field of martial art biomechanics. Advanced search was opted to retrieve and filter scientific articles published in four databases which include SportDiscuss, ScienceDirect, Web of Science and ProQuest. An analysis was conducted on the aforementioned publications in order to categorize them based on the martial arts' classifications for offensive and defensive techniques.

**Results:** The results show that 89.1 percent of the publications in Martial Arts Biomechanics studies had focused on offensive techniques, compared to only 11 percent on defensive techniques.

**Conclusions:** Research in martial arts biomechanics is expanding, nevertheless it portrays a similar trend that tends to focus on offensive techniques. Supposedly, defensive techniques are of equal importance in martial arts. Therefore, more biomechanics investigations pertaining to defensive techniques in martial arts should be carried out. In addition, the data presented in this review could provide significant knowledge to support future research in martial arts biomechanics.

**Keywords:** bibliometrics • defensive action • offensive action • scientific journals

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