Body Composition and Anaerobic Fitness of Division 3 Collegiate Cheer & STUNT Athletes

Abstract

College cheerleading is a sport that is rapidly growing and gaining popularity in the United States. In 2023 there were 68 teams participating in STUNT the Sport in the United States, which has increased to 74 college teams competing in the 2025 season. Additionally, hundreds of teams from across the country compete in NCA Nationals in Daytona, Florida every April. Despite the popularity of this sport, there is little scientific research about the athleticism of STUNT athletes. Therefore, the purpose of this study is to assess the impact of participating in collegiate NCA style and STUNT style cheerleading on body composition and anaerobic fitness.

In this study, 24 athletes from the Division III Alma College Cheer and STUNT team have been recruited and are having their data collected longitudinally through the duration of the 2024-2025 season. Four total testing sessions will be completed by the end of the study, with data collection in September and December of 2024 and February and April 2025. At each testing session, athletes complete a whole body DEXA body composition scan and a Wingate anaerobic power test. This study is specifically investigating bone mineral density and lean mass values based on DEXA scan data, and anaerobic fitness as determined by peak power and average power achieved on the 30-second Wingate maximal cycling test. Data from each of the four testing sessions will be analyzed to compare athlete stunting positions and grade level differences, and to determine if changes occur throughout the season.

By completing this research, we hope to gain understanding about the physical demands and attributes of Division III collegiate NCA cheer and STUNT athletes. We hope our research will begin to provide a framework that can guide training programs, injury prevention strategies, and performance optimization, helping future cheer and STUNT athletes achieve greater success in their sport.