



Sacred Heart  
UNIVERSITY

Sacred Heart University  
**DigitalCommons@SHU**

---

Academic Festival

---

Apr 21st, 1:00 PM - 3:00 PM

# Effect of Omega-3 Polyunsaturated Fatty Acid Supplementation on Running Economy: A Pilot Investigation

Karlee Picard

Follow this and additional works at: <https://digitalcommons.sacredheart.edu/acadfest>

---

Picard, Karlee, "Effect of Omega-3 Polyunsaturated Fatty Acid Supplementation on Running Economy: A Pilot Investigation" (2017).  
*Academic Festival*. 77.

<https://digitalcommons.sacredheart.edu/acadfest/2017/all/77>

This Poster is brought to you for free and open access by DigitalCommons@SHU. It has been accepted for inclusion in Academic Festival by an authorized administrator of DigitalCommons@SHU. For more information, please contact [ferribyp@sacredheart.edu](mailto:ferribyp@sacredheart.edu), [lysobeyb@sacredheart.edu](mailto:lysobeyb@sacredheart.edu).

# EFFECT OF OMEGA-3 POLYUNSATURATED FATTY ACID SUPPLEMENTATION ON RUNNING ECONOMY: A PILOT INVESTIGATION

Karlee Picard, Richard Marcello, Ann Knausenberger

Faculty Sponsor: Beau Greer

**PURPOSE:** Research has demonstrated an ergogenic benefit from  $\Omega$ -3 fatty acid supplementation. The present investigation was designed to further investigate the role  $\Omega$ -3 ingestion plays in aerobic performance, specifically running economy (RE). **METHODS:** Twelve subjects (5 M; 7 F) were matched for weekly running mileage and divided into supplement (SUPP) and placebo (PLAC) groups. Subjects ran on a Woodway treadmill at 2.7 meters/second (6.0 miles per hour) for 2 minutes to determine preferred stride frequency. After a 5 minute rest, subjects again ran at 2.7 m/s for 8 minutes while their oxygen utilization ( $VO_2$ ) and energy expenditure (EE) were monitored via indirect calorimetry in order to determine RE. Only the last four minutes of the test were used for data analysis to ensure steady-state conditions were present. Following the RE test for a three week duration, the SUPP group ingested 2.0 grams/day of  $\Omega$ -3 fatty acids while the PLAC group ingested 2.0 grams/day of olive oil. Subjects then returned to the laboratory and performed an identical RE test as previously performed with the same stride frequency. A 2x2 repeated measures ANOVA was used to analyze the data. **RESULTS:** Two subjects ingested less than 90% of the prescribed dosage and therefore were excluded from the analysis. There were no significant ( $p > 0.05$ ) within or between-group differences for  $VO_2$  or EE. **CONCLUSIONS:** This investigation indicates that three weeks of  $\Omega$ -3 fatty acid supplementation has no ergogenic effect as it relates to RE.