A new research paper was published in *Aging* titled, "The coupling between healthspan and lifespan in Caenorhabditis depends on complex interactions between compound intervention and genetic background."
Aging is characterized by declining health that results in decreased cellular resilience and neuromuscular function. The relationship between lifespan and health, and the influence of genetic background on that relationship, has important implications in the development of pharmacological anti-aging interventions.

In this new study, researchers from the University of Oregon, The State University of New Jersey (Rutgers), The Buck Institute for Research on Aging, and National Institute on Aging assessed swimming performance as well as survival under thermal and oxidative stress across a nematode genetic diversity test panel to evaluate health effects for three compounds previously studied in the Caenorhabditis Intervention Testing Program and thought to promote longevity in different ways—NP1 (nitrophenyl piperazine-containing compound 1), propyl gallate, and resveratrol.

"Overall, we find the relationships among median lifespan, oxidative stress resistance, thermotolerance, and mobility vigor to be complex."

The researchers showed that oxidative stress resistance and thermotolerance vary with compound intervention, genetic background, and age. The effects of tested compounds on swimming locomotion, in contrast, are largely species-specific. In this study, thermotolerance, but not oxidative stress or swimming ability, correlates with lifespan. Notably, some compounds exert strong impact on some health measures without an equally strong impact on lifespan.

"Our results demonstrate the importance of assessing health and lifespan across genetic backgrounds in the effort to identify reproducible anti-aging interventions, with data underscoring how personalized treatments might be required to optimize health benefits."

Provided by Impact Journals LLC

Citation: Scientists explore the coupling between health span and lifespan in Caenorhabditis (2024, April 23) retrieved 2 May 2024 from https://medicalxpress.com/news/2024-04-scientists-explore-coupling-health-span.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.