

Your Metabolism is Silently Altering by Ultra-Processed Foods

Scientists in France and Germany have conducted a study to identify urine and plasma metabolic biomarkers associated with [ultra-processed food](#) intake in adolescents and young adults.



Study

The scientists analyzed data from the Dortmund Nutritional and Anthropometric Longitudinally Designed (DONALD) study, an ongoing study designed to regularly assess and follow healthy infants until [adulthood](#).

The DONALD study has been recruiting [healthy](#) infants annually since 1985 and regularly assesses their dietary intake, anthropometric measurements, urine sample collection, blood sample collection, medical parameters, lifestyle factors, and other sociodemographic data.

Data from adolescents who provided 3-day dietary records and 24-hour urine samples was analyzed to determine the association between ultra-processed food intake and urinary [metabolic profile](#).

For young adults, the association between ultra-processed food intake and blood metabolic profile was determined by analyzing 3 or more 3-day dietary records within the 5-year period preceding a single [blood measurement](#).

Findings

A total of 339 adolescent [urine samples](#) and 195 young adult blood samples were analyzed in this study. There was an overlap of 139 participants between the two groups.

The proportions of ultra-processed [food intake](#) relative to total food intake in adolescents and young adults were 22% and 23%, respectively. The most commonly consumed ultra-processed foods in both groups were sweetened beverages and ready-to-heat or ready-to-eat food products.

Sweets, chocolates, ice cream, cereals, industrial breads, and processed meats and sausages contributed the most to [energy intake](#).

Conclusion

The study finds that ultra-processed foods can induce changes in urine and plasma metabolite levels in adolescents and young adults through various pathways, including xenobiotic metabolism, amino acid metabolism, and [lipid pathways](#).

The study identifies indoxyl glucuronide and other partially characterized glucuronides as major urinary metabolites positively associated with ultra-processed food intake. Glucuronides are produced during glucuronidation, a key [biological detoxification](#) pathway.

Regarding diet-related glucuronidation, evidence suggests that gut microbiome plays a key role in modulating microbial transformation of dietary substrates and [glucuronide levels](#) and biosynthesis of microbial metabolites.

It is also well-established in the literature that ultra-processed foods can induce gut microbiota dysbiosis, which in turn is associated with a range of health adversities, including immunological and [neuropsychological disorders](#).

Overall, the study findings provide useful information on the complex biological mechanisms through which ultra-processed foods may affect metabolism and health. The findings also raise concerns about how the displacement of minimally processed foods by ultra-processed options can lead to both nutritional deficiencies and disruptions in [gut health](#).

Source:

<https://www.news-medical.net/news/20240926/Ultra-processed-foods-are-silently-altering-your-metabolism-scientists-warn.aspx>