



aging news

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Risk of Obesity Varies by Social Status Across the Life Course

Increased rates of obesity in the US have become a national health concern, since having a high BMI (body mass index, calculated by weight & height) is associated with many adverse health effects, including most recently, increased vulnerability to COVID-19. Social status, which is affected by race, gender, and education, is known to affect risk of becoming obese. What is not known is whether social status affects BMI differently over the life course. A recent study was the first to look at this question, by **pooling participants from four national studies (MIDUS, Add Health, Americans' Changing Lives, and the Health and Retirement Study)**, resulting in BMI data that ranged from age 11 to 90.

Additionally, researchers looked at BMI variations among people from different birth cohorts, who were born during different historical periods (from the 1890s to the 1980s). Different cohorts may vary in their exposure to obesity risks. For example, new technologies that promote sitting rather than getting adequate exercise have been more prevalent in recent decades and can increase obesity rates.

Results showed significant differences in BMI by age, cohort, and social status:

- **Life-course patterns:** Average BMI increased from adolescence to middle age, peaked between age 50-69, then declined after age 70.
- **Cohort disparities:** Those born in more recent time periods had higher average BMIs, became obese at earlier ages, and showed larger increases in weight as they aged.
- **Racial disparities:** Blacks and Hispanics had higher average BMIs than Whites across all ages. The gap in BMI between Blacks and

Whites was larger in more recent cohorts.

- **Gender disparities:** Among women, Blacks had the highest average BMI, followed by Hispanic women and White women. Among men, Hispanics exhibited the highest BMIs, followed by Black men and White men.
- **Educational disparities:** Having more years of education or having parents with more education was associated with lower BMIs at all ages. Women in recent cohorts who had college-educated parents showed lower increases in BMI than average for their cohort.

The trend of increased obesity among more recent cohorts, as well as worsening social disparities, could have serious consequences for US life expectancy. Obesity is linked to heart disease, cancer, disability, and death. Those in less socially advantaged groups face an unequal risk of becoming obese. There are several reasons why this may be true, such as having less access to good health care and other resources that promote health. Residential segregation may contribute to disparities in access to healthy food and opportunities to exercise. Experiencing discrimination is known to increase stress, which for some trigger maladaptive coping behaviors such as overeating. Understanding how obesity risk changes over the life-course and by social status are important steps in addressing the obesity epidemic and reducing health disparities.

Source: Yang, Y. C., Walsh, C. E., Johnson, M. P., Belsky, D. W., Reason, M., Curran, P., . . . Harris, K. M. (2021). Life-course trajectories of body mass index from adolescence to old age: Racial and educational disparities. *Proceedings of the National Academy of Sciences*, 118(17), Article e2020167118. <https://doi.org/10.1073/pnas.2020167118>

MIDUS.wisc.edu

Midlife in the United States (MIDUS) is an ongoing multi-disciplinary study administered by the Institute on Aging that is following over 11,000 US residents to understand factors that influence their health and well-being across the decades of adult life.

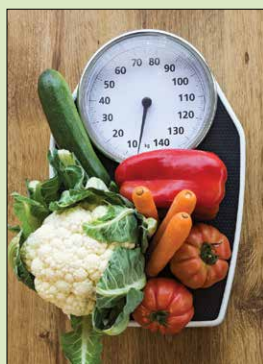
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“I think we’re on track to find a diet that people could adhere to, without restricting calories, that would still enable them to live a long and healthy life.”

∞ Prof. Dudley Lamming



A New Way to Prevent Obesity & Diabetes: Low Protein Diets

Despite a recent trend to promote low carb, high protein diets to lose weight, **IOA Affiliate Dudley Lamming, with Nicole Richardson, Deyang Yu (all UW–Madison Dept. of Medicine)** and other colleagues, have published recent findings showing that *low* protein diets may help prevent obesity and increase lifespan.

Protein is made up of nine amino acids that are essential to life and that our bodies can only get from food. Diets high in the three branched chain amino acids (BCAAs) are associated with obesity and diabetes, so Prof. Lamming’s group investigated the health effects of eating less BCAAs.

In their first study, they fed a diet of 67% reduced BCAAs to short-lived mice that mimic human aging, and showed that their lifespans increased when compared to a control group.

Next, they fed *middle-aged* mice a low BCAA diet and found that it kept them lean and improved their ability to process blood sugar (which, when compromised, can lead to diabetes).

They also found that, despite the importance of protein in maintaining muscle, mice on the low BCAA diet were less likely to become frail as they aged. They also saw a reduced incidence of cancer in females, although lifespan did not increase in either sex.

However, when they started feeding mice a low BCAA diet earlier, beginning at birth and continuing until death, they found that male lifespan increased by 30%.

In their second article, they looked more closely

at the three different types of BCAAs, leucine, isoleucine, & valine, to see which were responsible for the improved health effects.

They fed mice diets of equal calories that were low in one type of BCAAs. They found that low isoleucine was what created the beneficial health improvements. **Notably, those fed less isoleucine ate more, but gained less weight.** At the end of three months, they were leaner than mice fed the low valine or low leucine diets.

Additionally, they fed a low isoleucine diet to mice who were obese because they were on a typical Western diet that was high in sugar and fat. They found that even while they stayed on the Western diet, lowering isoleucine increased energy metabolism, which resulted in quick weight loss. The mice also had improved liver metabolism and better blood sugar balance.

Finally, they began to look at whether isoleucine had similar effects in humans. Using data from the Survey of Wisconsin Health (directed by Dr. Kristen Malecki) they were able to calculate how many amino acids were eaten by people in the study. They found that a diet higher in isoleucine was associated with a higher body mass index.

Together, these results suggest that a diet low in isoleucine may offer a new approach to treating & preventing obesity & diabetes.

Sources:

*Richardson, N. E., Konon, E. N., Schuster, H. S., Mitchell, A. T., Boyle, C., Rodgers, A. C., . . . Lamming, D. W. (2021). Lifelong restriction of dietary branched-chain amino acids has sex-specific benefits for frailty and lifespan in mice. *Nature Aging*, 1(1), 73-86. <https://doi.org/10.1038/s43587-020-00006-2>*

*Yu, D., Richardson, N. E., Green, C. L., Spicer, A. B., Murphy, M. E., Flores, V., . . . Lamming, D. W. (2021). The adverse metabolic effects of branched-chain amino acids are mediated by isoleucine and valine. *Cell Metabolism*, 33(5), 905-922.e906. <https://doi.org/10.1016/j.cmet.2021.03.025>*

Eating a Diet Low in BCAAs:

- Animal proteins are high in BCAAs, especially beef and pork.
- Vegans, vegetarians, and pescatarians (fish is the only meat they eat) have diets low in BCAAs.
- Creating a low-BCAA diet is not easy. A small study by Prof. Lamming currently underway involves obese and pre-diabetic men who are eating mostly BCAA-free powder in place of some meals. The researchers are trying to find a more tolerable diet for future studies.
- Most Americans consume more protein than needed, so decreasing protein a bit may be beneficial for everyone, especially for the two thirds of Americans who are overweight or obese.



Supporting Caregivers Who Provide Care to an Abusive Parent

An estimated 53 million American adults serve as caregivers providing unpaid assistance to their aging parents who can no longer perform necessary tasks of daily living. An overlooked aspect of caregiving occurs when adult children need to provide care for parents who maltreated or abused them as children. Researcher **Jooyoung Kong, along with IOA Affiliate Tracy Schroeffer (both from the UW-Madison School of Social Work)** and colleagues, recently published a review about this type of caregiving, which is estimated to be an issue for 9-26% of those providing parental care.

Their overview showed that adult children who provided care for abusive parents experienced worse mental health outcomes, such as depression, than those who provided assistance to non-abusive parents. They further reviewed areas in which healthcare practitioners could provide support to caregivers in hopes of reducing these negative outcomes:

Supporting Their Choice to Say No

- Helping professionals can support adult children by clarifying that they have a choice in whether to provide care to an abusive parent, even amidst cultural values that dictate otherwise. Validating complicated emotions, including guilt or shame for saying no, may be a way to assist them, in addition to helping make alternative arrangements for their parent's long-term care.
- For those who do decide to provide care for an abusive parent, professionals can help with setting clear boundaries on the type of care provided. For example, if they were sexually abused, they might not provide help that involves intimate physical contact (bathing, dressing), but could help instead with transportation or shopping.

Assessing the Healing Process

- It can be helpful for healthcare professionals to assess where the adult child is in their own healing process related to past abuse. If they have not sought recovery

through therapy or other means, caregiving could result in a return to coping strategies that may have been initially helpful, but were destructive in the long run, such as abusing substances.

- Practitioners can encourage caregivers to use more positive coping mechanisms, such as being present-focused (not dwelling on the past or thinking too far into the future to avoid feeling overwhelmed), practicing self-care (mindfulness, spirituality), and continuously self-monitoring whether they are able to continue with caregiving.

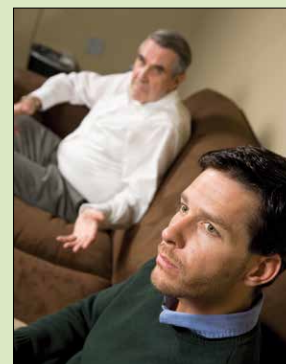
Awareness of End-of-Life Complications

- Caregivers with an abusive history may experience heightened family conflict when an abusive parent is near end-of-life.
- This may complicate their interactions with helping professionals, who should not assume that all unfinished business can be resolved before the parent's death. End-of-life goals that involve reconciliation of family relationships may not be possible.

Awareness of Complex Grief Issues

- Well-meaning people may think that the death of an abusive parent could bring relief to survivors. However, complex emotional responses are more likely.
- The death of an abusive parent may activate memories the adult child hasn't thought about in years, as well as rekindle a yearning for the love and normalcy they may have never experienced in childhood.
- In addition to grief over the abuser's death, there may be grief because it is no longer possible for their abuser to ask forgiveness for the harm they've caused.

Thus, when a survivor of childhood abuse is expected to provide care for an aging parent, the situation can be more complicated than for those who had more loving childhoods. Helping health practitioners be aware of these issues is crucial to their ability to provide effective support to all caregivers.



Source:

Kong, J., Kunze, A., Goldberg, J., & Schroeffer, T. (2021). Caregiving for parents who harmed you: A conceptual review. *Clinical Gerontologist*, 44(5), 507-519. <https://doi.org/10.1080/07317115.2021.1920531>

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EDITING & LAYOUT

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Colloquium News:

Due to the pandemic, the 32nd Annual Colloquium on Aging has been postponed to Sept. 22, 2022 in Madison, WI

Registration is Free & Open to the Public

Stay informed at:
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*Find a place inside of you
where there's joy, and
the joy will burn out the pain.*

~ Joseph Campbell

Stand Up & Move More to Improve Health

We previously reported that the *Stand Up and Move More* pilot program had received federal funding (**IOA Affiliate Kelli Koltyn, PI, UW-Madison Dept. of Kinesiology**) to conduct a study of the effectiveness of its community intervention that aims to reduce sedentary behavior (time spent sitting). This has been suggested as a new focus for intervention among older adults rather than trying to increase the time they spend exercising. Results from that study are now available.

Fifty-six adults aged 55 or older were randomly assigned to the intervention, or were placed in the control group (who continued their usual daily routines). All participants wore a thigh monitor that recorded how long they spent sitting. **Initially, participants averaged more than 10 hours a day being sedentary. After the *Stand Up & Move More* intervention:**

- Sitting time *decreased* by 68 minutes a day. In contrast, the control group *increased* sitting time by 16 minutes a day.
- The intervention group significantly increased their balance, walking speed, and ability to get up from a chair, and reported having fewer limitations due to their physical health.
- They also reported that breaking up sitting time was more appealing to them than trying to exercise more.

This indicates that *Stand Up and Move More* is a highly feasible, low-cost intervention that could be carried out in communities across the country to improve the physical functioning of older adults and help them maintain independence as they age.

The *Stand Up & Move More* Intervention:

- included four weekly sessions plus a refresher session at eight weeks, in which trained facilitators elicited ideas from older adults regarding how they could reduce their sitting time, then helped them develop and refine action plans to reach their goals.
- Between sessions, participants were asked to break up bouts of sitting that lasted more than an hour by taking short breaks, beginning with 3 to 5 times per day, and progressing to 10 to 12 times per day.

Strategies used to break up sitting time included:

- standing up during TV commercials
- spreading household chores out across the day
- placing reminders around the house
- standing up while doing activities they normally did while sitting down (quilting, sewing, reading, working on puzzles, talking on the phone, paying bills).



Source: Crombie, K., Leitzelar, B., Almassi, N., Mahoney, J., & Koltyn, K. (2021). *The feasibility and effectiveness of a community-based intervention to reduce sedentary behavior in older adults.* *Journal of Applied Gerontology*. Advance online publication. <https://doi.org/10.1177/0733464820987919>