

## US mothers from 1965 to 2010: More TV, less housework

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New research from the University of South Carolina's Arnold School of Public Health shows that mothers in the U.S. are far less physically active than they were in previous decades and now spend more time engaged in sedentary activities like watching television than in cooking, cleaning and exercising combined.

Given the essential role that daily physical activity plays in the health and wellbeing of mothers and their <u>children</u>, this research provides important insights into the nation's pervasive health problems such as childhood obesity and diabetes.

The study, led by Arnold School exercise scientist and epidemiologist Edward Archer and published in the medical journal *Mayo Clinic Proceedings*, is a follow-up to a controversial study published earlier this year that demonstrated that in 2010, women spent 25 percent more time engaged in leisure-time computer use and watching TV than cooking, cleaning, and doing laundry combined.

The new research examined 45-year trends in maternal activity in two groups: mothers with younger children (5 years of age or less) and those with <u>older children</u> (age 6 to 18). During the 45-year span of the study, mothers with younger children reported a decline in physical activity of almost 14 hours per week (2 hours per day), from 44 hours per week in 1965 to less than 30 hours by 2010. This substantial decline in activity led to a decrease in energy expenditure of 225 <u>calories per day</u> (1573 calories per week).



Mothers with older children experienced an average decline of more than 11 hours per week, decreasing from 32 hours per week in 1965 to less than 21 hours in 2010. This led to a reduction in energy expenditure of 177 calories per day (1238 calories/week). This means mothers in 2010 would have to eat 175-225 less calories per day to maintain their weight than mothers in 1965.

These dramatic declines in physical activity and energy expenditure corresponded with large increases in sedentary behaviors such as watching TV. Mothers with older children reported an average increase in sedentary behaviors of 7 hours per week, from 18 hours in 1965 to 25 hours in 2010; while mothers with young children increased sedentary behaviors by almost 6 hours a week, from 17 hours per week to nearly 23 hours per week.

The study also found that the time spent engaged in physical activity and sedentary behavior varied depending on the employment status of the mother. Non-employed mothers had approximately twice the declines in physical activity and much larger increases in sedentary behaviors than employed mothers. For example, non-employed mothers with younger children reported a decline in physical activity of 14 hour per week compared with only a 5 hour per week decline for employed mothers. At the same time, non-employed mothers with older children increased sedentary behavior by 8.1 hours per week compared with an increase of 6.7 hours per week for employed mothers.

The data for the study were derived from the American Heritage Time Use Study database, which consists of more than 50,000 diary days spanning 1965-2010. Physical activity was defined as the aggregate time engaged in general child care and playing with children, preparing meals, post-meal cleanup, housework, as well as participating in sports and exercise. Preliminary results from a parallel study on trends in time use by men show similar decreases in daily energy expenditure, dramatic



declines in occupational <u>energy expenditure</u>, and even more striking increases in screen-based media use.

A growing body of epidemiologic and experimental research suggests that energy metabolism and body composition are 'programmed' both in utero and in early post-natal life. Archer and his colleagues speculate that "there exists the potential for the intergenerational transmission of pathophysiology and obesogenic lifestyle behaviors from mothers to children" because "a mother's physical activity and sedentary behaviors affect the environments to which her progeny are exposed, such as the intrauterine milieu and family social setting)."

"With each passing generation, mothers have become increasingly physically inactive, sedentary, and obese, thereby potentially predisposing children to an increased risk of inactivity, adiposity, and chronic non-communicable diseases. Given that physical activity is an absolute prerequisite for health and wellness, it is not surprising that inactivity is now a leading cause of death and disease in developed nations," Archer said.

"The confluence of our results and other research suggests that inactivity has increased significantly over the past 45 years and may be the greatest public health crisis facing the world today."

**More information:** www.sciencedirect.com/science/ ... ii/S0025619613008288

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