Gasoline Prices and Physical Activity: Is There a Connection?

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“Yes,” says Lister Hill scholar Bisakha Sen. “The findings from this study indicate that higher gasoline prices are associated with increased participation in and increased time spent on certain physical activities. The increases are most pronounced during sharp, unexpected shifts in gasoline prices and a major component of the increase appears to be in housework that is at least moderately energy intensive—examples include interior and exterior cleaning, garden, and yard work.”

While the role of gasoline prices has been studied in the context of auto fatalities and climate change, its role in relation to behavior leading to obesity is largely unexplored. Obesity is epidemic in the U.S. and there is a need to identify policy tools that may help fight this epidemic. Recent economic research finds an inverse relationship between gas prices and obesity risk. This suggests that increased gas prices via higher gas taxes may have the effect of reducing obesity prevalence. In theory, higher gasoline prices may alter behavior by both a “substitution effect” whereby people seek alternatives to motorized transportation and an “income effect” whereby people make adjustments to what they spend money on.

In this study, data from the American Time Use Survey over 2003-2008 were combined with data on spikes in gasoline prices that occurred during this period due to Hurricane Katrina and global price pressure. The results indicate that the main effect may not operate as much through substituting away from using cars but by constraints on the family budget which lead people to cut back on certain expenses such as hired help for household chores or repairs. The association is weaker for people of lower socioeconomic status (SES) who are less likely than their higher SES counterparts to use hired help regardless of gasoline prices.

“If increasing physical activity is the primary goal, then it may be more efficient to use a tax that can exert an income effect on mid-to-high SES households,” says Dr. Sen. “On the other hand, if gasoline taxes are imposed to address other negative consequences of gasoline use, then these taxes may have the added benefit of increasing physical activity at least among some segments of U.S. society.”