Traffic density and increased BMI linked

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People living in neighbourhoods where they perceived traffic made it unpleasant to walk were more likely to have a higher BMI than those who didn't, according to a new University of Alberta study looking at the relationship between the built environment , socio-economic status (SES), and changes in body mass index (BMI) over a six year period.

This was one of the surprise findings in the study, led by Tanya Berry, a professor in behavioural medicine and a population health expert in the Faculty of Physical Education and Recreation.

"We found that the more people perceived that traffic was a problem in their neighbourhood, the more likely they were to have a higher BMI. But whether this means that those people were less active, we don't know, but we do know this is something to be followed up on," said Berry.

Study results also showed that age and neighbourhood SES also increased BMI change. Participants living in the lowest SES neighbourhoods experienced higher BMI increases than those in high SES neighbourhoods. The average BMI increased by .4 points across the entire study sample.

"We found that younger people had the biggest increases in BMI than older people, meaning those in the over -65 group," said Berry. "That's bad news on both counts: that younger people are getter fatter and because low BMI in older people is linked to frailty and illness and is an indicator of cardiovascular disease.

" We also found that participants in high SES neighbourhoods decreased their BMI by .5 points."

This study surveyed 822 Edmontonians by phone and included questions about age, gender, education, employment, marital status and household annual income - and whether they had moved since 2002.

Participants were asked about their consumption of fruits and vegetables, how often they ate them and how many servings; whether they were smokers. Those in the study were asked to self report their height and weight so researchers could calculate their BMI, and how many minutes they spent walking, sitting, or sleeping over a seven-day period.

"We asked about the type of housing in their neighbourhoods," said Berry, "because single family, detached family dwellings tend to reduce walkability whereas in high-density, mixed residential neighbourhoods people can walk out of their apartment, go to the grocery store or other places easy to walk to."

In neighbourhood design, said Berry, there are the three D's of walkability: diversity, density and design. "And then there are people's perceptions," said Berry. "Low-income neighbourhoods would rank quite high on the walkability index, but people aren't walking because of perceived safety issues, or the only place to go is the convenience store on the corner."

Finally, said Berry, "I was surprised to find that objective walkability (an index assessing density, diversity and design) didn't come up as significant at all in our findings. There's a body of cross-sectional literature showing the relationship between the walkability of a neighbourhood and BMI, but there are some other studies, and now this longitudinal one, that actually look at the change in BMI and are calling

that relationship into question.

"It might be that the perception of walkability is more important than these objective measures."

Going forward, said Berry, "We really need to pay attention to people in the lower income neighbourhoods and what we can do to help them; work with their community leagues, listen to, and understand their perceptions and what they value."

Provided by University of Alberta

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