

Background

In Canada, approximately 60% of men and 44% of women are overweight [1]. Canadian annual health care costs resulting from the treatment and management of overweight/obesity is approximately \$4.3billion[2]. Reductions in physical activity and increases in sedentary leisure-time, present a significant risk for overweight/obesity, however, few studies have examined the influence of driving behaviour on weight status. Driving an automobile – a sedentary behaviour, regularly undertaken by many adults – might be an opportunistic target for intervention, especially as driving behaviour can be influenced by urban planning and transportation policies.

Aim

To synthesize evidence from studies that examine the relationship between automobile driving behaviour and weight status among adults.

Method

Article search and selection:

- Databases: Pubmed, Web of Science, Transport Research International Database (TRID), and Medline.
- Peer-reviewed English-language studies from all years that quantified the association between driving behaviour and weight status in participants age ≥ 16 years were included only.
- Ten studies met the inclusion criteria and were included in the review (see Figure 1).

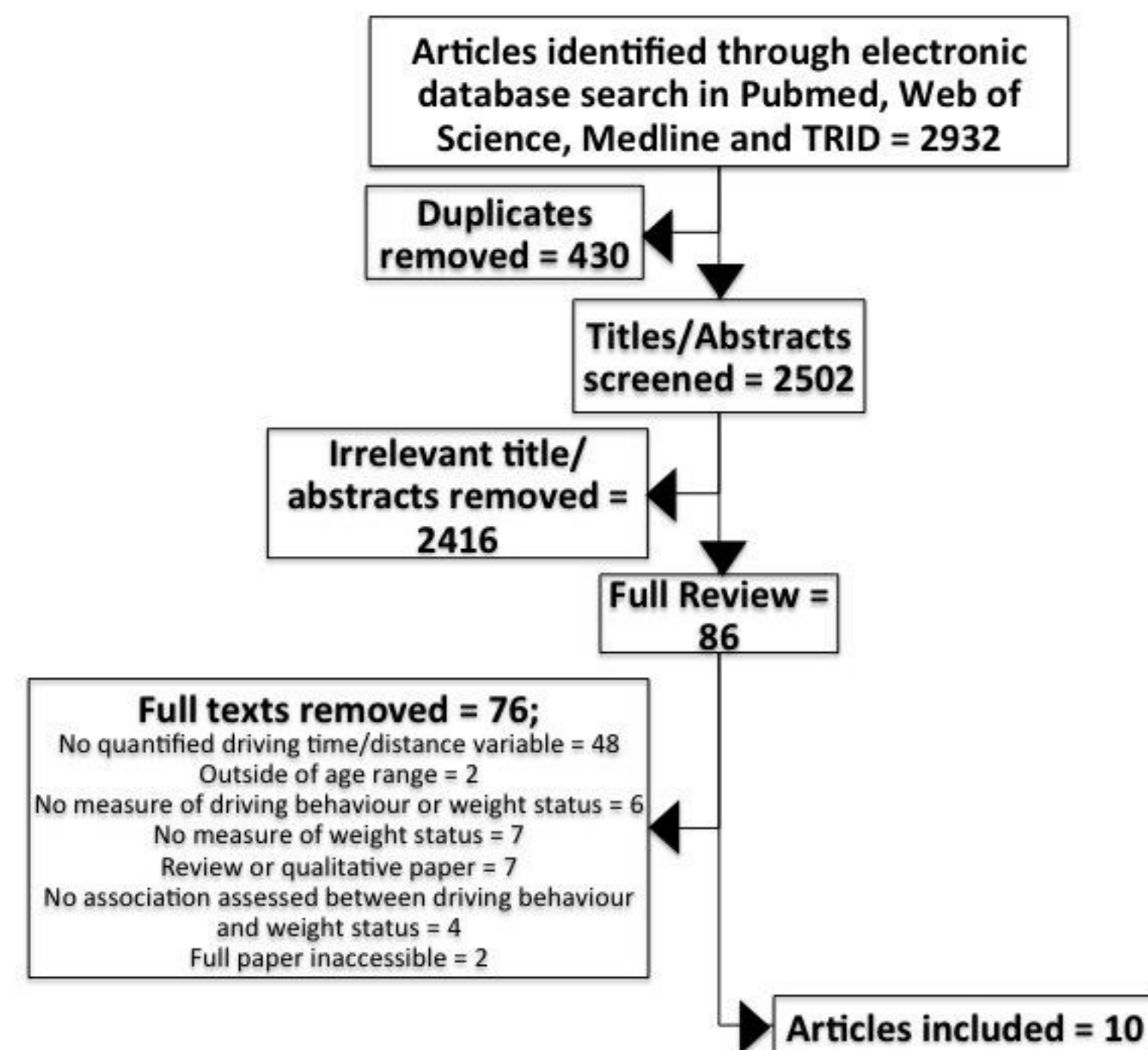


Figure 1. Flow chart illustrating the article inclusion process.

Results

- Studies were undertaken in the US (n=5), UK (n=1), Spain (n=1), Columbia (n=1), Australia (n=1), and Canada (n=1).
- Among the studies reviewed, 6 were cross-sectional, 3 were longitudinal and 1 was ecological.
- Measures of weight status included: self-reported (n=8) and objectively-assessed body mass index (n=1), self-reported body weight change (n=1), and objectively-assessed waist circumference (n=1).
- All studies (n=4) estimating the association between distance travelled by car and weight status found a positive association (Figure 2).
- Among studies measuring time spent driving a car (n=4) and frequency of travelling by car (n=2), 50% found a positive association with weight status (Figure 2).

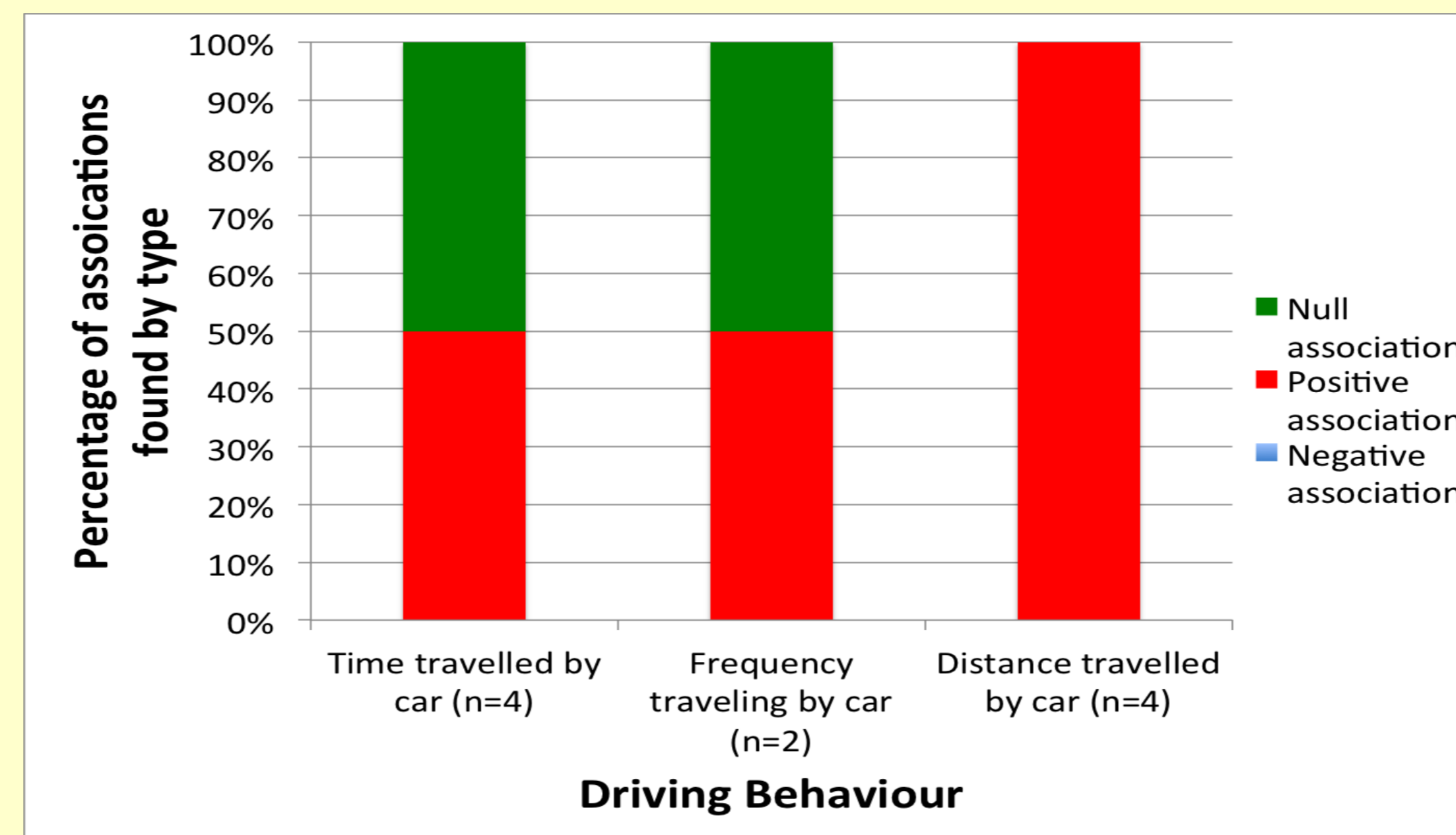


Figure 2. The proportion of studies reporting positive, negative, and null associations between driving behaviour and weight status

Conclusion

- Findings from this review suggest that driving behaviour, including distance, time, and frequency of travel by car, is positively associated with weight status among adults.
- Despite the majority of evidence suggesting a positive relationship between driving behaviour and weight status, much of the evidence is based on cross-sectional studies -- therefore caution in making causal inferences is needed.
- Interventions that have the potential to reduce driving behaviour, such as improvements to public transportation planning and policy; the creation of walkable neighbourhoods, and; implementation of social marketing campaigns that encourage the use of active transportation might reduce overweight and obesity at the population-level.



References

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