

## **Riding with children for transport and recreation: Carrier use and safety issues**

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### **Abstract**

Supporting children to bicycle may protect them against various inactivity-related diseases. Perceived safety may be a barrier to riding with children, particularly for transport. To extend the sparse research investigating adults' experience of relevant safety issues adult riders completed online questionnaires about riding with children for transport (n=66) and recreation (n=18). Questions focused on experience of safety issues associated with different types of child carrier and cycling infrastructure. Results suggest that initiatives to reduce interactions with traffic as well as traffic speed may help to move adults from riding with children for recreation only to riding for transport also.

### **Background**

Supporting children to develop a habit of bicycle riding helps to protect them against a range of diseases associated with inactivity. Children often begin by riding with their parents - in a carrier on the adults' bicycle (e.g. child carrier seat, trailer, tagalong, cargo box) and/or, later, on their own bicycle accompanied by an adult. Perceived safety is likely to exert a strong influence on whether and how parents ride with children. However, there is little research investigating adults' experience of safety issues associated with riding with children. Carrier-use is not recorded in routinely collected crash data. Survey data from our Safer Cycling Study (Hatfield et al, under revision) offered some insights into hazards experienced by adults when riding with children, and suggested that different carrier types are associated with different risks. Tagalongs appeared to be overinvolved in safety-critical events. The present study sought to further explore adults' perceptions of the hazards of riding with children, particularly linked with different carrier types.

### **Method**

Eligible participants were approached at events being hosted by City of Sydney Council for Bike Week (September 2017) and invited to participate in a study "about factors which influence the choice to bike ride with children, and the experience of riding with children".

Eligible participants were required to:

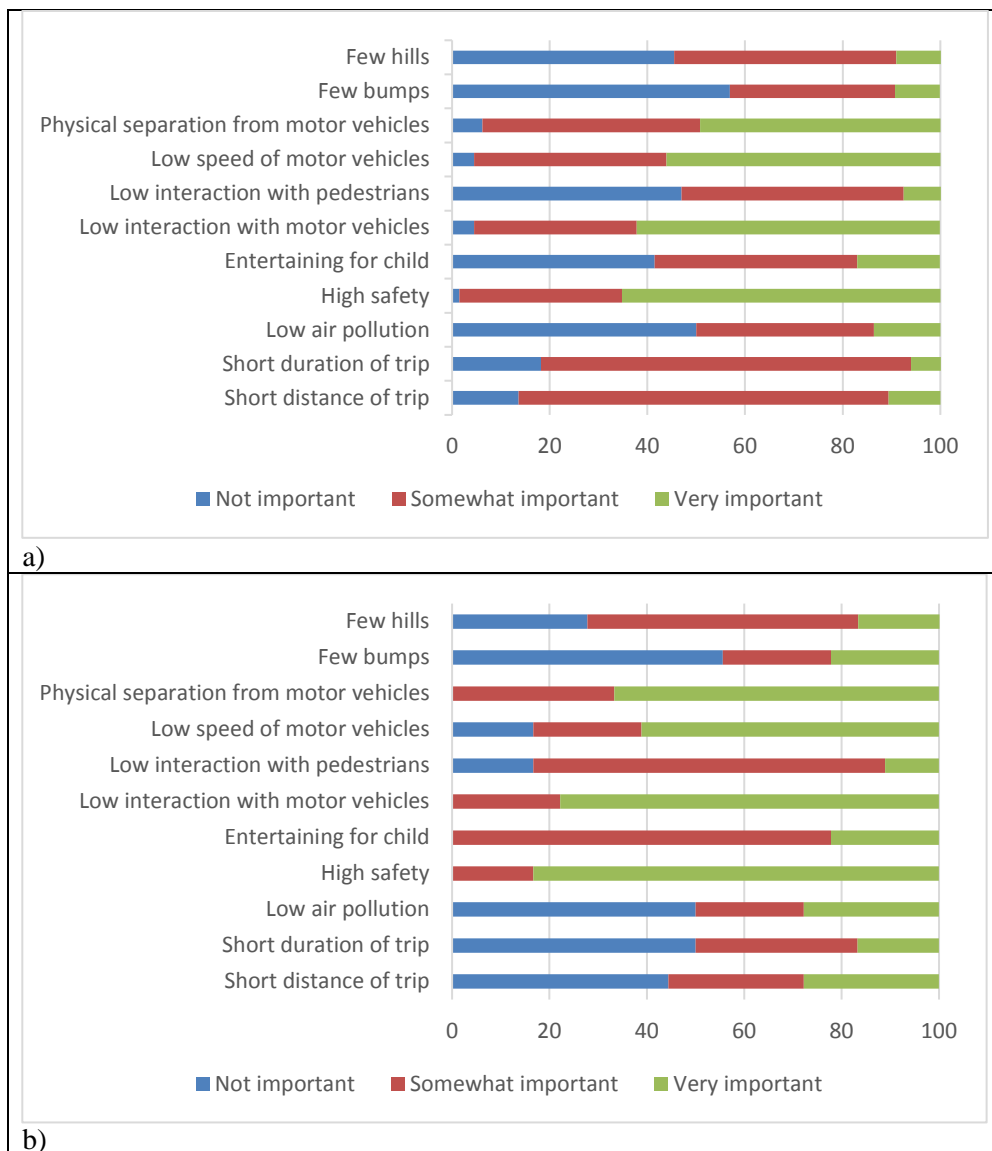
- be at least 18 years old, and
- be the parent/carer of a child who is between 0 and 11 years old, and
- ride a bicycle at least once every 6 months.

Potential participants were provided with a link to an online questionnaire that took 10 -15 mins to complete. Sixty-six riders responded to the questionnaire about riding with children for transport. Respondents were asked about their main reasons for choosing to ride with children for transport, their common destinations, and their preference for particular route characteristics. For each carrier-type a participant reported using, they were asked to list three positive aspects and three negative aspects (for carrying children) and ranked preference for different types of cycling facilities. Respondents described up to three hazards specific to riding with a child, indicated how many hours they had ridden with a child/children for transport in the last 12 months, the age of the children involved, and how many collisions or falls had occurred. Respondents provided details about the most serious of these crashes. Nineteen riders responded to a parallel questionnaire about riding with children for recreation.

**Results**

Respondents who rode with children *only* for recreation most commonly endorsed “risk of injury to child/ren” as a reason for not also riding with them for transport. Entertainment was the most commonly endorsed reason for riding with children for recreation, while convenience was the most commonly endorsed for riding with children for transport. The most common destination for transport riders was the park, followed by shops and schools.

“High safety” was the top priority for both groups of respondents (transport and recreation; see Figure 1). Transport riders identified specific priorities of “low interaction with motor vehicles”, “low speed of motor vehicles”, and to a somewhat lesser degree “physical separation from motor vehicles”.



**Figure 1: Percentage of respondents reporting each degree of importance of specific factors when choosing where to ride with children for a) transport and b) recreation**

For both groups:

- rear-mounted seats were the most common form of carrier, followed by trailers.
- regardless of carrier type, bike-only paths were most preferred, and roads least preferred.

- key safety issues included changed handling due to increased weight, instability associated with child seats, and reduced maneuverability due to increased width and/or length of trailers and tagalongs.

### **Conclusions**

Results suggest that addressing perceived safety (and ideally actual safety) may be important for moving adults from riding with children for recreation *only* to riding with them for transport *also*. Priorities for transport riders suggest the value of reducing interactions with traffic as well as traffic speeds. Cycling-specific infrastructure appears to be preferred to roads by both groups and would ideally serve key local destinations such as parks, shops and schools. Changes to design standards/guidelines for both carriers and facilities could improve safety.

### **References**

Hatfield J, Murphy S, Poulos RG, Rissel C, Flack LK. (under revision). Safety aspects of riding with children: A survey of adult riders. *Accident Analysis and Prevention*