Walking school buses in the city of Ferrara. A qualitative analysis through social capital theory.

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Over the past seventy years, the prevalence of automobiles has grown significantly (Alyavina et al., 2020 ; Nikitas et al., 2021). Many individuals view private cars as symbols of connectivity (Musselwhite, 2021), social inclusion (Mattioli et al., 2020), and indicators of personal social status (Pojani et al., 2018). However, this trend in travel behavior poses serious challenges to environmental, economic, and societal well-being. The overreliance on cars is linked to increased greenhouse gas emissions, local air and noise pollution, climate change, traffic fatalities, chronic diseases, obesity, and physical inactivity (Morton, 2018 ; Nikitas et al., 2016 ; Potoglou et al., 2020 ; Tsigdinos et al., 2021).

In this scenario, a promising strategy to alleviate traffic congestion and reduce environmental pollution, while also providing health benefits to society, is the promotion of walking activities (Lopez-Lambas et al., 2021). Walking can greatly enhance the quality of life for everyone; it is both free and straightforward, as it is the first mode of transportation we learn to use. As highlighted by Distefano et al. (2023), one of the primary benefits of walking is that it produces no greenhouse gas emissions. Research conducted by Schmeidler (2010) indicates that municipalities that cultivate a safe and welcoming environment for pedestrians foster social interactions and community engagement. For example, safer streets give parents the confidence to allow their children greater freedom and opportunities for communication and social development. Furthermore, as noted by Speck (2013), enhancing walkability promotes urban sustainability.

In this study, we focused on children's journeys to school, believing that this could be a key driver for unlocking a more sustainable future and reducing car usage. In recent decades, the methods by which children are taken to school have changed significantly. Today, many parents drive their children to school, leading to a decline in active transportation, such as walking. (Fyhri et al., 2011 ; McDonald et al., 2011 ; Martin et al., 2018).

To encourage active travel to school, various activities, and transportation policies have been developed. (ATE, 2007 ; NCSRTS, 2007 ; Chillon et al., 2011 ; Green Communities Canada, 2011). One of the most commonly implemented activities is the Walking School Bus (Martin et al., 2018). This is a free service where a group of primary school children walk together to school, escorted by parents or volunteers along a predefined route (Kingham and Ussher, 2007).

Supporting the growth of a Walking School Bus requires attention to social relationships and understanding parent attitudes. According to Birkenfeld (2018), a successful Walking School Bus program relies on parents who value walking, as well as on schools that reinforce these messages. Coleman (1988) suggests that when parents communicate with one another, their social capital is strengthened, thereby increasing their trust in social structures.

Our research aims to investigate why the Walking School Bus service is not fully adopted or often fails. We hypothesize that a low level of social capital may negatively impact the functioning of this service. We began by examining the key contributions that shaped the concept of social capital and sparked interest in the scientific community and the political world to further explore its implications for society. Notably, we considered the studies of James Coleman (1988 , 1994) on education and social interactions, as well as those of Robert Putnam (1993, 2000) on civic tradition and institutional performance.

Through our studies, we found that social capital can develop within both family contexts and community levels. The establishment of strong relationships among family members can yield benefits for the group,

including child development. As Coleman (1988) points out, the creation of trust networks and mutual relationships among parents in their children's schools contributes to fostering positive and educational environments for students. When parents invest time in building social relationships with one another, they collectively gain benefits. In this context, the advantages of living in a community with high levels of social capital are experienced by all its members, even if not everyone actively participates in civic life. This phenomenon supports the characterization of social capital as a public good, as it generates benefits that extend beyond the individuals involved in the association to a broader community (Putzel, 1997 ; Cox and Caldwell, 2000).

Of particular relevance to our research is the study by Cho and Kang (2017), which suggests that the higher the level of social capital in a community, the greater the likelihood that its members will engage in pro-environmental behaviors.

The focus of our study is the city of Ferrara, which has organized its primary schools into eight comprehensive institutions, encompassing a total of thirty primary schools. During the preliminary research phase, we discovered that some schools actively utilize the Walking School Bus service, while others have discontinued it, and some are currently evaluating its implementation. Nonetheless, we approached all the schools in Ferrara for data collection.

This research adopts a qualitative approach, with semi-structured interviews as the primary data-gathering tool. The data collection process consists of three phases:

1. Gathering information about the current status of the Walking School Bus service in Ferrara through interviews with municipal managers. This phase includes details about the schools involved, the number of children participating, the locations of Walking School Bus stops, and the distances covered in meters.

2. Gathering insights from school managers. Our specific aim is to analyse schools that fall into three categories: (i) those successfully adopting the Walking School Bus service; (ii) those that previously adopted it but have since discontinued it; and (iii) those planning to adopt the service.

3. Collecting parents' opinions about Walking School Bus. Interviews are led to parents from schools where the Walking School Bus service is active, those where it has failed, those considering adoption, and those who have not yet implemented or shown interest in the service.

The data obtained from these interviews have been analyzed through thematic analysis, using NVivo software.

Preliminary findings indicate that parents participate in various associations, generally trust others, and show a strong interest in environmental issues. These initial results align with existing literature, as highlighted by Cho and Kang (2017): "The higher the level of social capital in a community, the greater the likelihood that pro-environmental behaviors will be developed among its members."

Ultimately, we aim to understand the reasons behind the challenges faced by the Ferrara Walking School Bus service. If our findings are consistent with the literature, we anticipate that the main barriers to its effectiveness will include insufficient follow-up time, incomplete implementation of planned interventions, lack of financial resources, and inadequate support from local and regional governments.

Adopting a behavioral economic perspective, we began to explore whether a low level of social capital among the citizens of Ferrara could be linked to the challenges faced by this service. As we do not yet have conclusive findings regarding the influence of social capital on the Walking School Bus, we will continue to investigate this aspect in the quantitative phase of our research.

To further our investigation, we have devised a survey aimed at the parents of all primary school students in Ferrara. We plan to administer this survey through a specialized agency, targeting 1,500 to 2,000

parents. This survey will help us assess the economic value of “non-market” goods using the contingent valuation methodology. Furthermore, the questionnaire will allow us to estimate the fuel savings achieved by not driving children to school.

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