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A Model Development for Children's Walking in Neighborhood

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Abstract

Motorized travel mode to school affects children's interaction with the environments in their journey that causes many consequences for them. With focus on children's and parents' perception regarding environment, this paper addresses some factors that affect children's travel mode choice in their school journey in Iran. The method used in this study was analysis of collected data through questionnaire and interview. The results revealed the relations of three significant factors influencing children's walking mode choice in their school way. Identified factors can lead to design appropriate settings in their routes that can cause benefits for children and parents.

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Keywords: Children's environment; travel mode; school journey; independent mobility

1. Introduction

This paper is regarding children's walking and some important factors that affect children's walking travel mode choice in their neighborhood as their journey to and from school. Commuting to school and back is a daily activity for most children and their parents (Karsten and van Vliet, 2006) because of the compulsory nature of school attendance (Romero, 2010). In this regard, travelling between home and school can be seen as a critical area and also a significant opportunity to improve children's development as their travel behavior. Therefore, the journey to

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school is considered as a phenomenon that changes travel behaviour, and creates actual benefits for children and their parents.

Children's travel behavior is affected by social and physical environment factors as well as personal factors and family position (Timperio et al. 2006). In addition, the beliefs, perceptions and attitudes about different travel modes are likely to influence children's travel (Verplanken et al. 1994; Handy 1996; Kitamura et al. 1997; Bamberg and Schmidt 2003).

Home to school travel mode is categorized in different ways. One such way is that of accompaniment, which is divided into two parts, accompanied travel and unaccompanied travel. Moreover, in terms of transportation type, children's travel modes to school are under two general categories, active and passive.

Active travel mode is divided into two types, walking and cycling (Hume 2006) and is known as a proper economical policy to travel to and from school. Active transportation, in addition to health benefits, promotes a physically active life style which is likely to continue until adulthood. However, it can be seen that nowadays children's active commuting to school has declined in many countries (Timperio et al. 2006). Children were not motivated to cycle because of risks that they may face in their way such as accidents and theft, and also because of a lack of necessary facilities like biking and parking space. In addition, using different active travel modes to school strongly depends on societal norms. For instance, in Iran, children are not pushed to cycle to school, especially girls, because of traditional norms that prohibit girls from cycling.

A child's transportation mode is also influenced by perceived obstacles that affect parental decisions (Yeung et al. 2008). In this regard, physical attributes that affect a child's choice of travel mode to school including street layout, distance to school, and traffic counts have been studied based on adult concepts. Therefore, variables which focus on children's interests have been disregarded (Jones et al. 2000; Braza et al. 2004; Ewing et al. 2004; Boarnet et al. 2005).

Moreover, the effects of environmental factors on children's school journey have mainly concentrated on the parents' perceptions of the environment, such as distance from home to school or traffic conditions (Bricker et al. 2002; Dellinger and Staunton 2002; Sjolie and Thuen 2002; Ziviani et al. 2004).

Parents' protective attitudes influence children's active travel modes in their school journey (Romero 2010). Parents' perceptions about the environment have an effect on their decision regarding children's travel mode to and from school. Moreover, the restriction on children's autonomy in their movement is considered a factor that plays a significant role in their travel mode choice (Romero 2010). Recently, many researchers such as Mackett et al. (2007), Ross (2007), Brown et al. (2008), Wen et al. (2009) have emphasized that children's walking to school without parental supervision and accompaniment has an effect on their skills and knowledge (Romero 2010).

Parents' protective role and their accompaniment with children can diminish opportunities to improve their flexibility (Hillman et al. 1990; Romero 2010). There are many reasons why parents limit their children's curiosity. Parents' perception and interpretation about social and environmental safety affect parents' anxiety (Rissotto and Tonucci 2002) which has an influence on their accompanying their children to school. Moreover, urban environmental conditions negatively affect children's independent mobility. Modern cities have been changed to negative space to live especially for children to explore the environmental opportunities. In other words, children's terrain for independent exploration of the space has been reduced (Karsten and van Vliet 2006). In this regard, there is growing evidence that higher level of independent mobility has an important correlation with active commuting in primary school children (Panter et al. 2008). Therefore, children's school journey without parental accompaniment is seen as one of their activities that can be evaluated to determine their level of independent mobility (Hillman et al. 1990).

Regarding the relation of children's independent mobility and the time spent in their school journey, it is noteworthy that children who have independent mobility to travel to school play for at least half an hour in their school journey (Wen et al. 2009). This is in consistent with Prezza et al. (2001) and Romero (2010) who found that the time children spend in their way to and from school can be increased by enhancing their independent mobility.

Furthermore, those children who are mostly allowed to walk on their own, are more than two and a half times more likely to spend time at least 30 minutes outside after school compared to those who are never allowed to walk on their own (Wen et al. 2009). Therefore, preparing various play features along the children's route to school can motivate them to stay and play in outdoor environments in their school way. Therefore, they are stimulated to choose walking as travel mode and home school journey as a context of walking (Rezasoltani et al. 2010).

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