

# SOCIOECONOMIC STATUS AND TRAFFIC SAFETY OF PRE-SCHOOL CHILDREN: A STUDY IN ATHENS

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## INTRODUCTION

The aim of this study is to identify the mechanisms, which link the socio-economic status, with the level of traffic safety of preschool children in Athens, Greece in particular the use of car, driver seat belt and child restraint system (CRS) for this commute. We examine the socioeconomic status (SES) of the family, both in relation to the SES of the area of residence, as well as independently.

SES has been known from the literature to determine road safety behaviour in general, and car seat use in particular.

We define the socio-economic status of the family using the following indicators: maternal education, paternal education, income and family structure. The SES of the area is defined using as indicators the educational level and the occupation of the residents and the property values.

**Pre-schoolers:** This category of road users has received little attention compared to other age groups. Pre-schoolers are completely dependent on their care-givers for their commute, as they cannot travel unaccompanied. In the case of travelling as car occupants, their body structures are much more immature than older children and restraint over larger and sometimes different body areas is necessary.

**Young families:** Key events, such as a birth of a child, are linked to several changes of the behaviors and attitudes of the parents, as well as their activities and travel patterns. Such a life change provides opportunities for targeted interventions to promote traffic safety.

**Nursery school travel:** Has received little attention comparing to travel to school, work etc.

## CASE STUDY: ATHENS AREA

A structured questionnaire, exploring the travel choices of the families with preschool children during their everyday commute to the nursery school, was completed by volunteer parents. Fyli, Ilioupoli and Kifissia are suburban municipalities of Athens. Fyli is located in the western part, Ilioupoli in the south-eastern and Kifissia in the northern of the Athens metropolitan area. The above areas were chosen as they have socioeconomic and built environment characteristics of a typical low, medium, and high SES suburb of Athens, respectively. In terms of property values the price zone for Fyli spans between 650 and 800 Euros/m<sup>2</sup>, for Ilioupoli between 1400 to 1900 Euros/m<sup>2</sup>, while the range for Kifissia is 1250 to 4000 Euros/m<sup>2</sup>.

## RECRUITMENT AND PARTICIPATION RATE

The directors of all municipality nursery schools in Fyli, Ilioupoli and Kifissia agreed to disseminate the survey to the students' parents. There was no financial incentive for the parents to undertake the survey. The distribution and collection of the questionnaires took place during 2014. We received complete and usable replies for 734 children attending these nursery schools. **The response rate by municipality was for Fyli 20%, for Ilioupoli 55% and for Kifissia 45%.** The lower response rate in Fyli is clearly correlated with the lower socioeconomic level of the parents, many of which are immigrants

## RESULTS

### USE OF CAR FOR THIS COMMUTE - ALL AREAS

	OR	95 <sup>th</sup> % CI	P
Distance>400m	10.338	5.994 to 17.829	<0.0001

### USE OF CAR FOR THIS COMMUTE IN RELATION TO SES OF AREA

	OR	95 <sup>th</sup> % CI	P
Ilioupoli vs. Fyli	1.087	0.608 to 1.942	0.779
Kifissia vs. Fyli	3.4	1.506 to 7.674	0.003
Kifissia vs. Ilioupoli	3.685	1.793 to 7.574	<0.0001

### USE OF DRIVER SEAT BELT IN RELATION TO SES OF AREA

	OR	95 <sup>th</sup> % CI	P
Ilioupoli vs. Fyli	1.849	1.211 to 2.823	0.004
Kifissia vs. Fyli	3.281	2.071 to 5.198	<0.0001
Kifissia vs. Ilioupoli	1.785	1.151 to 2.767	0.010

### USE OF CRS IN RELATION TO SES OF AREA

	OR	95 <sup>th</sup> % CI	P
Ilioupoli vs. Fyli	2.318	1.173 to 4.580	0.016
Kifissia vs. Fyli	2.659	1.348 to 5.244	0.005
Kifissia vs. Ilioupoli	1.153	0.550 to 2.419	0.706

### USE OF DRIVER SEAT BELT AND CRS IN RELATION TO FAMILY INCOME<10000 - ALL AREAS

	OR	95 <sup>th</sup> % CI	P
Driver seat belt	0.674	0.312 to 1.457	0.316
CRS	0.750	0.459 to 1.225	0.250

### USE OF CRS IN RELATION TO PARENTS' TERTIARY EDUCATION

	OR	95 <sup>th</sup> % CI	P
Mother Tertiary Education	1.761	1.219 to 2.542	0.003
Father Tertiary Education	1.982	1.312 to 2.995	0.001

### USE OF DRIVER SEAT BELT IN RELATION TO PARENTS TERTIARY EDUCATION

	OR	95 <sup>th</sup> % CI	P
Mother Tertiary Education	1.503	0.841 to 2.687	0.169
Father Tertiary Education	1.843	0.926 to 3.665	0.081

## CONCLUSION

Findings of this study show a very high percentage of pre-schoolers being escorted by car and a low seat belt and child restraint system use for the everyday travel to nursery school. The use of CRS and driver seat belt are linked to parents' tertiary education.

## FURTHER RESEARCH

Further research is in progress, as well as more in-depth statistical analysis of the collected data. Neighborhood characteristics and routes followed by the parents are analyzed. The link between family income and parental level of education is also examined. In a time of financial crisis for Greece, there are many highly educated parents that have low earnings, countering the expectation that higher educated parents would have a higher income.

An observational study is also in progress. The observations include caregivers escorting children by motorbike and child-caregiver interactions, when walking to the nursery school. Potential unsafe and illegal behaviors, such as the use of mobile phones by drivers, are also considered.

Questionnaires are distributed in municipality nursery schools and observational studies are carried out in several selected areas of Greece. The results of each area will be used for valuable comparisons.