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Social Participation and Independent Mobility in Children: The Effects of Two Implementations of "We Go to School Alone"

Miretta Prezza [a]; Francesca Romana Alparone [b]; Daniela Renzi [c]; Annalisa Pietrobono [a]
[a] Department of Psychology, "Sapienza" University of Rome, Rome, Italy [b] Department of Biomedical Sciences, University of Chieti, Chieti, Italy [c] National Council of Research, Rome, Italy

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Social Participation and Independent Mobility in Children: The Effects of Two Implementations of "We Go to School Alone"

MIRETTA PREZZA
Department of Psychology, "Sapienza" University of Rome, Rome, Italy

FRANCESCA ROMANA ALPARONE
Department of Biomedical Sciences, University of Chieti, Chieti, Italy

DANIELA RENZI
National Council of Research, Rome, Italy

ANNALISA PIETROBONO
Department of Psychology, "Sapienza" University of Rome, Rome, Italy

The aim of this research was to determine the outcomes of the "We go to school alone" program in two Districts of Rome through a longitudinal study involving 392 children (mean age = 8.37 years) and 270 parents. The outcomes of the program in the two Districts were very different. Only one resulted in an increase in children's autonomous mobility on the home–school journey, a reduction in the number of times a child was taken to school by car, and, even more important, in an increase in the general level of children's independent mobility in their neighborhood. The findings are discussed in terms of a process evaluation that enabled us to understand the differing results.

KEYWORDS children, evaluation, home–school journey, independent mobility, initiatives, outdoor autonomy, social participation

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Address correspondence to Miretta Prezza, Department of Psychology, "Sapienza" University of Rome, via dei Marsi 78, 00185 Rome, Italy. E-mail: miretta.prezza@uniroma1.it

It is becoming increasingly rare in Western countries to come across children playing or walking in the streets, open spaces, or parks without strict adult supervision (Hillman, Adams, & Whitelegg, 1991). Children's independent mobility can be defined as the frequency with which they play and move around outdoors by themselves (e.g., go to school, go to a club or an association, go to a friend's house, go shopping, play outdoors unsupervised). It is negatively affected by numerous factors: the dangers and volume of traffic (Bijörklid, 1995); the lack of accessible spaces close to home (Kyttä, 2002; Matthews & Limb, 1999; Prezza, 2007; van der Spek & Noyon, 1997); the parental perception of traffic (Bijörklid, 1995; van der Spek & Noyon, 1997) and social dangers (Matthews & Limb, 1999; Prezza, 2007; Valentine, 1997); parents' poor relations with neighbors (Prezza, 2007); the scant importance given by parents to children's independent mobility as a factor contributing to their growth and development of personal responsibility (Prezza, 2007); and some of the children's demographic characteristics, in particular the young age (Matthews & Limb, 1999; van der Spek & Noyon, 1997), whether they were the eldest or an only child (Prezza, 2007), and whether they were girls (Matthews & Limb, 1999; Prezza, 2007). Some studies have also revealed that a higher socioeconomic level (Tranter & Pawson, 2001) or a higher parental educational level (Tonucci, Prisco, Renzi, & Rissotto, 2002) were linked to children's reduced outdoor autonomy.

In addition to the factors just mentioned, the autonomy of the home–school journey also depends on the distance and difficulty of the journey in question (Giuliani, Alparone, & Mayer, 1997). On the other hand, the ever more common habit of taking children to school by car is influenced by the number of cars owned by the family and is often justified by the parents on the grounds of convenience (it saves time, the journey is part of the parents' journey-to-work, etc.) (Johansson, 2006; Mackett, 2001).

The progressive disappearance of children from urban spaces negatively impacts children's cognitive development (Rissotto & Giuliani, 2006), their social development (Hüttermoser, 1995; Prezza, Pilloni, Morabito, Alparone, & Giuliani, 2001), their sense of community and loneliness (Prezza & Pacilli, 2007), and their physical health because of the related decrease in exercise (Cooper, Andersen, Wedderkopp, Page, & Froberg, 2005).

But children's independent mobility is of considerable value both to parents and to the community. A greater number of children in the public realm can activate positive changes: it encourages adults also to walk, creating intergenerational areas that can be kept under informal social control. Hence the promotion of walking and independent mobility in children with its concomitant reduction in the volume of traffic and pollution makes the community more livable and improves environmental sustainability (Tonucci, 1996; Tranter & Pawson, 2001). For these reasons, many initiatives have been taken in Italy including "We go to school alone," which is linked to *The City of Children* network (www.lacittadeibambini.org).

"We go to school alone" offers children of primary-school age the chance to go to and return from school with their school friends, unaccompanied by their parents. It also aims to: contest bad lifestyle habits (sedentariness and isolation); help children to confront the outdoor environment; modify the excessively protective attitudes of parents; and increase parents' trust in other adults and in particular in those who live in the same neighborhood. The initiative requires careful planning with the families and schools involved. Local social organizations, shopkeepers, the municipal police, and all citizens also have to be committed to the initiative to re-establish a social fabric of friendship, support, and mutual trust in the city. To date only two evaluation studies of "We go to school alone" in three small Italian cities (Fano, Pesaro, and Gabicce) have been published. They show that implementation of all cooperative aspects of the program are fundamental to its success.

In Fano (Boggi, 2000), the interest and willingness of the parents notwithstanding, the number of children who became autonomous on the home–school journey was quite modest. This low rate of success can be attributed to the parents' disappointment in the local government's failure to implement the agreed measures to increase safety on the children's routes. In contrast, in Pesaro and Gabicce the full support of the local government and the strong cooperation between the community's social and educational components (Tonucci, 2002) led to a successful outcome.

AIMS OF THE STUDY

The aim of this longitudinal study was to evaluate the outcomes of the "We go to school alone" program in two different schools in Rome. In particular the authors wanted to understand:

1. If participation in the program increased children's autonomous mobility on the home–school journey and if it led to a decrease in the number of children taken to school by car;
2. If any positive effects extended to other spheres of daily life through the increase of the children's independent mobility on other journeys and in outdoor play.

A further aim was to detail the kinds of processes that accompanied the two initiatives in order to be able to account for any possible differences in the results.

METHODS

The "We Go to School Alone" Initiative in the II District of Rome

The school that undertook the initiative in the II District is situated in the *Africano* neighborhood, an area that came into being in the 1930s but

underwent heavy development in the 1950s and 1960s. It is populated for the most part by middle–upper-class residents, 11.7% of whom are children from 0 to 14 years of age. It is located about 4.8 km from the center of Rome (Piazza Venezia) and is characterized by large apartment buildings of 6–9 floors with few green public or private spaces, with a very high inhabitant density (16,725 inhabitants per km^2).[1] The neighborhood is intersected by numerous narrow one-way streets and by some large commercial streets—in certain cases subject to private traffic restrictions—which attract a lot of cars and people from outside the neighborhood.

In 2001 the city government of Rome participated in the *The City of Children* international network coordinated by the Institute of Cognitive Science and Technologies of the National Council of Research of Rome (CNR). In 2003, among the initiatives connected to this network, the city government of Rome invited all districts in the city to take part in the "We go to school alone" program. This involved collaboration with CNR to start the program in the schools that decided to participate.

District II responded to the city government's invitation and launched "We go to school alone" in the S. Maria Goretti primary school (henceforth known as school S1). In this case the decision to carry out the initiative was taken directly by the district government without first involving the different organizations and actors who would collaborate in carrying out the project. Consequently, no preliminary agreement was made on critical aspects of the initiative, such as the children's safety when traveling. The school principal explained the initiative to the teachers and parents and organized a general meeting of the initiative's supporters. The District entrusted a nonprofit association with all the activities connected with the initiative. The preparatory activities followed the standard methodology (see Appendix) and took place between February and April 2004. Approximately 200 children were involved. The meeting points and the routes to school were chosen in agreement with the municipal police, teachers, parents, and local government representatives. In the same period the nonprofit association organized some public meetings with local shopkeepers, local senior citizens, and volunteers of a neighborhood Civic Protection association to ask for help in supervising the meeting points and routes and in supporting the children. The children then designed a sticker that was produced by the District and given to shopkeepers who supported the initiative. They were asked to place it in their shop windows so that the children would know who to turn to should the need arise. The children also designed an invitation that was distributed to local people and invited them to the initiative's launch party. The *operative phase* of the initiative (see Appendix) took place in April 2004.

During the launch party the children presented the District with a list of requests that would improve child walkability. Volunteers (senior citizens or members of the Civil Protection) and the municipal police were to watch over the most dangerous points of the route but early in the week the children,

parents, and teachers found that there were in fact far fewer volunteers than expected. This was interpreted by the parents as an oversight on the part of the district government, as expressed in a protest letter the parents sent to the District. They felt disheartened and discontinued the operative phase. Nevertheless the operative phase resumed immediately with a larger number of volunteers as a result of the extra commitment shown by the parents.

However, other problematic aspects emerged: (1) more children took part on the journey to school than on the return journey; (2) one of the three meeting points was more heavily used because of the shorter and easier nature of this route to school and because it was more central to the neighborhood; and (3) in the afternoons parents were generally late in arriving at the meeting points, which in turn annoyed the volunteers. During the last days of the week of the operative phase the District increased the supervision of the routes, but some parents also initiated supervision themselves, demonstrating a break in the relationship of trust with the District. It may explain why the initiative did not proceed as planned through to the end of the school year. Interest in the initiative was rebuilt during a review meeting held between those in charge of the initiative and its supporters. At this meeting the parents and the school asked the District to continue "We go to school alone" during the 2004–2005 school year and proposed that (1) the initiative should start at the beginning of the school year in order to allow parents to get organized and to match the timetables of after-school activities with those of the meeting points; (2) more reliable voluntary organizations should be involved in the supervision; (3) the children should be made to feel that they were being listened to by ensuring that their earlier requests had been met by the time the school year started again; (4) the initiative should be better publicized in the neighborhood; and (5) more attention should be paid to safety with assistance from safety experts. To meet these requests District II officials asked the city government of Rome for financial help. This was not forthcoming and no explanation was given. A small group of parents and children independently continued the initiative by ensuring supervision at a couple of meeting points on one route only until the end of the 2004–2005 school year.

The "We Go to School Alone" Initiative in the XI District of Rome

The Cesare Battisti school (henceforth known as school S2) is situated in the distinctive *Garbatella* neighborhood. This neighborhood is located 3.5 km from the center of Rome. Its population density (9,112 per km^2) is comparable to other semi-central areas of Rome. It is inhabited primarily by persons of medium–low class (13.8% of the residents are university graduates) and 10.7% of the inhabitants are children from 0 to 14 years of age.[2] Built in the 1920s and 1930s, both aesthetically and architecturally it represents one of the most successful experiments in the construction of public housing

and as a result in recent years the neighborhood has become an increasingly popular place to live. Garbatella is one of the few neighborhoods in Rome that has kept a strong sense of identity and local community (close relations with neighbors, small squares where people from different generations meet to chat or to play, etc.). The part of Garbatella in which the initiative was implemented is characterized by a maze of alleys, for the most part one-way, in which small buildings of two or three floors alternate with big blocks of flats with large inner courtyards and gardens.

"We go to school alone" was launched by the XI District of Rome between July and December 2004 in the primary school S2 and immediately involved the help of both a local senior citizens' center and the local police headquarters. The school immediately adopted a very active role and integrated the initiative into its official educational program. Consequently, the initiative quickly gained visibility in the neighborhood and immediately became operative. During the meeting where the initiative was presented to the parents (at which District and CNR delegates took part) it was decided to support the initiative such as the putting in place of special road signs to highlight the routes that the children would take during the *operative phase* (see Appendix). The children and the teachers wrote separately to the parents asking for their collaboration and reassuring them about any safety concerns. Hence, a large number of senior citizens were involved to supervise the children's routes.

The preparatory activities by teachers started in February–March 2005 and involved about 240 children (see Appendix). The preparatory activities were enhanced by some autonomous initiatives undertaken by children and teachers (e.g., a competition to design colored posters and placards to be placed in the streets and at the meeting points). The District agreed to the children's request to change the color of the crosswalks along the three chosen routes and to paint small footprints on the sidewalks to mark the routes to school. The *operative phase* began in May 2005, with the launch party of the experimental week. The volunteer senior citizens and the local police guaranteed the supervision of the most dangerous crossings and the meeting points. Children's participation was very high, especially on the journey to school, and so was the satisfaction of the families. The initiative continued uninterrupted until the end of the school year. At that point a meeting was held between the school, the District, representatives of the city government of Rome, and the CNR at which the school asked for the initiative to be continued into the following school year and: (a) to involve more senior citizens in a supervisory capacity, (b) to give all the children a "pedestrian's license," and (c) to form a "Children's Committee" to monitor the progress of the initiative within the school.

The District agreed to these requests and obtained financial support from the city government of Rome. The initiative thus continued into the 2005–2006 school year and two extra classes took part. In a public ceremony

in February 2006, the District awarded a medal to the senior citizens in recognition of this and other community service. The families also began collecting the gas money they saved by sending their children to school on foot, and then donated it to a charity. In March 2006 "We go to school alone" was extended to another neighborhood school and at the time of writing is still active in both schools.

Times, Contact Methods, and Participants in the Research

Before the research commenced a third school (school C) was chosen as a control group. The main criteria were that it be very close to school S1 and that its children have similar characteristics. Data collection proceeded at different times in the two experimental schools in accordance with the times at which the activities took place, whereas in the control school the data were gathered at the same time as in school S1. At Time 1, questionnaires were distributed in January 2004 in schools S1 and C, and in January 2005 in school S2. At Time 2, the data were gathered in March 2005 in schools S1 and C, and in May 2006 in school S2. With the permission of school authorities, the parents, and the teachers, the questionnaire was given to each child individually in the first and second classes and to small groups of children in the third and fourth classes. The children involved in the two experimental schools were from the classes who had agreed to take part in the initiative "We go to school alone" with the exception of those children who the following year would be attending a different school. The children were asked to deliver a questionnaire to one of their parents and to return it when completed to their teacher.

Children's response rate was 96.9% at Time 1 and 89.2% at Time 2, while parents' response rate was 91.4% at Time 1 and 66.8% at Time 2, respectively. Only the children's group, for whom data are available at Time 1 and Time 2 ($N = 392$; $n = 120$, school S1; $n = 104$, school C; and $n = 168$, school S2), and the parent–child combination (parents' and children's group) who completed the forms at Time 1 and Time 2 ($N = 270$; $n = 81$ school S1; $n = 77$ school C; $n = 112$, school S2) were included in this study. At Time 1 the boys and girls in the children's group had a mean of 8.43 years ($SD = 1.12$) and approximately half were males (49.0%); 38.5% lived less than 500 meters from the school, 30.5% between 500 and 1,000 meters and the other 31.1% lived farther away. Differences between the schools emerged: The ages of the children are on average lower for school S2 ($p < .001$); the mothers of the children in school S2 are younger ($p < .05$) and less educated than the mothers of school S1 ($p < .001$); the children of school C live significantly closer to their school than the children in school S1 who, for the most part, live more than a kilometer away from the school ($p < .001$). These significant differences among the three schools were also found in the parents' and children's group, with the exception of the mothers' age: here the age

difference is a trend.[3] In all three schools 77.0% of the parents' questionnaires were completed by the mothers.

Instruments and the Construction of the Dependent Variables

The questionnaires given to the children and parents at Time 1 and Time 2 contained questions that were for the most part identical. The questionnaire included:

a. *Sociodemographic information.* The children were asked their date of birth, gender and year in school. The parents were asked to indicate which of them had completed the questionnaire and, then, the age, profession, and educational degrees of both parents. They were also asked to make an estimate of the distance between their house and their child's school (1 = less than 500 m; 2 = from 500 to 1,000 m; 3 = more than 1,000 m).
b. *The child's habits regarding the journey to and from school.* The questionnaire contained three questions for the children and three identical questions for their parents about child autonomy on the home–school journey: (1) "How often do you (does he/she) go to school unaccompanied by an adult?" (labeled "children: autonomy home–school journey" and "parent: autonomy home-school journey"; response rate: 1 = never, 2 = rarely, 3 = very frequently, 4 = always); (2) "In this period how and with whom do you (does he/she) go to school?"; and (3) "In this period how and with whom do you (does he/she) return from school?" For questions 2 and 3 response options included on foot, bicycle, bus, school bus, or car/motorbike for mode of transportation and "on my own or with friends/brothers" or "accompanied by an adult." Composite variables were constructed from questions 2 and 3 called "children: autonomy going to and from school" and "parents: autonomy going to and from school." Values ranged from 1 to 4 depending on whether the child was escorted to and from school (1 = no autonomy) or whether the child reportedly went to and from school independently (4 = full autonomy). A score of 2.5 was awarded if the child was accompanied by an adult in one way of the journey only. As high correlations (Time 1, $r = 0.61$; Time 2, $r = 0.67$) were found between the two variables "children: autonomy home-school journey" and "children: autonomy going to and from school," we averaged them as a new variable called "children: autonomous commuting to school" (both at Time 1 and at Time 2). Similarly, as the variables "parents: autonomy home–school journey" and "parents: autonomy going to and from school" were correlated ($r = 0.51$ at Time 1 and $r = 0.67$ at Time 2), we then averaged them to create a new variable called "parents: autonomous commuting to school" (both at Time 1 and at Time 2).
c. *The child's habits regarding independent mobility.* Six questions asked how often the child was involved in certain activities (going to meet

friends, going to sport or catechism class; using public transport; cycling in the neighborhood; going to a shop; playing in the streets or in the parks or in the town's open spaces; going out after dark) unaccompanied by an adult (1 = never, 2 = rarely, 3 = very frequently, 4 = always). Cronbach's alphas based on the six answers from the children were good (0.71 at Time 1 and 0.74 at Time 2). Alphas calculated using parents' answers were slightly lower (0.56 at Time 1 and 0.64 at Time 2). Two comparable measures, "children: independent mobility" and "parents: independent mobility" were constructed both for Time 1 and for Time 2 as an average of the answers to the six questions.

Data Analysis

To verify the differences between the groups at a univariate level ANOVA was used for the quantitative variables and chi square test (with the adjusted residuals) for the qualitative variables. The ANOVA test, repeated measures, full factorial model, was used to verify the hypotheses about the effects of the two initiatives.

RESULTS

Autonomy on the Home–School Journey (Children's Group)

At Time 1, 88.3% of the children in the three schools stated that they "never" went to school unaccompanied by an adult and only 5.7% stated that they "very frequently" or "always" went to school without adult supervision. The difference in autonomy in the children attending the three schools was nonsignificant ($\chi^2 = 12.06$; $df = 6$; $p < .06$), but different methods of transport were used to take them to school. In school C, the children were more frequently accompanied on foot, and in school S1 by car (see Table 1).

At Time 2, 50.3% of children stated that they "never" went to school unaccompanied by an adult, and 29.6% were "very frequently" or "always" unaccompanied. This greater degree of autonomy could be ascribed to the fact that the children were approximately 14 months older than at Time 1, but important differences emerged between the schools: Only 28.0% of the children in school S2 said that they "never" went to school on their own, compared to 74.0% in school C and 60.8% in school S1 ($\chi^2 = 70.96$; $df = 6$; $p < .0001$). In the mornings (see Table 1) 47.9% of the children from school S2 went to school on their own or with friends or brothers or sisters (whether on foot, by bicycle, or by bus), compared to 22.5% from school S1 and only 13.5% of school C ($\chi^2 = 48.82$; $df = 2$; $p < .0001$), whereas on the return journey the difference between the three schools only tended towards significance ($\chi^2 = 7.79$; $df = 2$; $p = .055$), and overall only 14.8% said that they returned home on their own.

TABLE 1 Responses to the Questions: "In this period how and with whom do you go to/return from school?" (children's group, $n = 392$; percentage values)

	Time 1						Time 2					
	How do you go?			How do you return?			How do you go?			How do you return?		
	S1	C	S2	S1	C	S2	S1	C	S2	S1	C	S2
n (note)	119	104	159	120	103	161	119	104	163	118	102	160
On foot, on my own, or with friends/brothers	5.0	5.8	3.8	4.2	3.9	4.3	20.8	13.5	46.6	9.2	10.8	20.0
By bicycle, on my own, or with friends/brothers	0.8	—	0.6	0.8	—	0.6	—	—	—	—	—	—
By bus, on my own, or with friends/brothers	1.7	—	0.6	1.7	—	—	1.7	—	1.2	1.7	1.0	—
On foot, accompanied by an adult	36.1	69.2	46.5	44.2	69.9	57.8	29.2	61.5	21.5	39.5	64.7	53.1
By bicycle, accompanied by an adult	—	—	1.3	0.8	—	—	0.8	—	—	0.8	—	—
By bus, accompanied by an adult	7.6	1.9	2.5	6.7	1.9	2.5	5.8	5.8	0.6	6.7	4.9	1.9
By schoolbus	—	1.0	0.6	—	—	0.6	—	—	1.2	—	—	0.6
By car/motorbike	48.8	22.1	44.0	41.7	24.3	34.2	41.7	19.2	28.8	42.0	18.6	24.4

In these questions there were some missing values.

The Use of the Car for Journeys To/From School (Children's Group)

In school S2, the number of children taken to school by car fell from 70 in Time 1 to 47 in Time 2 (a decrease of accompanied journeys made by car of 32.8%). In school S1 the decrease in car journeys was far more limited (falling 13.8% from 58 to 50 children) and similar to that of school C (a decline of 13% from 23 to 20 children). On the return journey in school S2, 55 children were accompanied by car in Time 1 and 39 children in Time 2 (−29.1%), whereas in school S1 the number remained constant (50 and 50) and in school C it fell from 25 to 19 (−24.0%).

From the data examined up to this point "We go to school alone" appears to have been effective in school S2 and not very effective in school S1. In particular it seems that in school S2 many children changed their method of getting to school in the morning, while in the afternoon old habits for the most part prevailed. As already noted, in the afternoon many parents found it more convenient to pick up their children by car in order to take them directly to their after-school leisure activities. However, before any firm conclusions can be drawn we need to control for the possible influence of other variables.

The Efficacy of "We Go to School Alone" on Autonomous Commuting to School (Parents' and Children's Group)

A repeated measures ANOVA (full factorial model) was calculated on the variable "children: autonomous commuting to school" from the two waves of the child survey, including school as a between-subjects factor, and, as covariates, the child's age (in Time 2), gender, the mother's educational level, and the distance between home and school. The covariates were inserted to control for the influence of several variables for which we found differences among the participants in the three schools and which in previous research emerged as being related to children's autonomy on the home–school journey.[4]

As proof of the efficacy of the initiative the interaction between time and school ($F = 48.08$ [2, 255], $p = .000$) proved to be very significant. In fact, the children's autonomous commuting to school increased much more from Time 1 to Time 2 for the children in school S2 than for those in schools C and S1 (see Figure 1). Therefore, only in school S2 did the initiative influence[5] the children's autonomous commuting to school.

Furthermore the tests of within-subjects contrasts highlighted a significant interaction between time and age: the older children modified their level of autonomy in the interval between the two times more than the younger children ($F = 20.69$ [1, 255], $p = .000$). Finally, the tests of between-subjects effects showed an on the whole significant effect on "children: autonomous commuting to school" of the age ($p = .000$) and gender of the child ($p = .049$) as well as of the school ($p = .000$) and, only

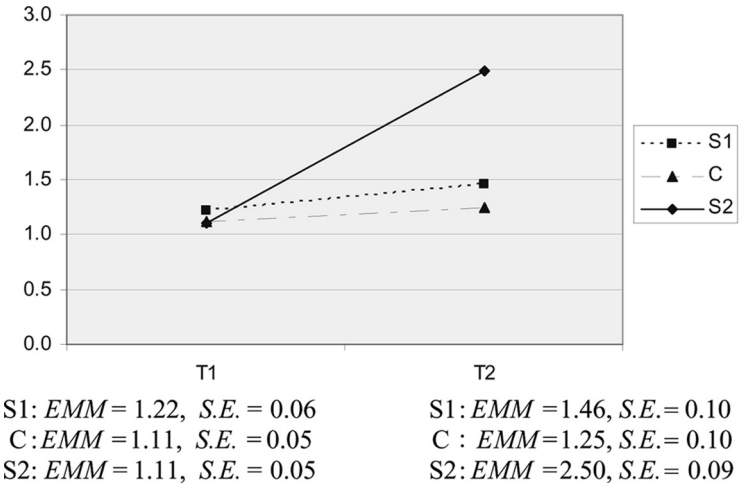

FIGURE 1 Children: autonomous commuting to school. Estimated marginal means (EMM) at Time 1 and at Time 2 for the three schools (parents' and children's group, $n = 270$).

as a trend, of the distance ($p = .082$): the older children, the boys, those who attended School S2 and those that lived less than 1,000 m from the school claimed to be more autonomous in their home–school routes respectively than the girls, those who attended Schools S1 and C, and those who lived farther away.

An ANOVA was calculated also with the data obtained from the questionnaires completed by the parents, considering as between-subjects variables "parents: autonomous commuting to school" in the two times. The results were similar to those obtained with the children's data and the interactions between time and school ($F = 36.35$ [2, 255], $p = .000$) as well as between time and age ($F = 14.67$ [1, 255], $p = .000$) were highly significant. A significant interaction also emerged between time and gender ($F = 5.61$ [1, 255], $p = .02$) highlighting how the boys modified their level of autonomy in the interval between Time 1 and Time 2 more than the girls. Finally, the tests of between-subjects effects showed an overall significant effect on "parents: autonomous commuting to school" of age ($p = .000$), school ($p = .000$), and distance ($p = .022$) and, only as a trend, of gender ($p = .064$), in the same direction as that found for the differences based on the children's answers.

The Efficacy of the Initiative on Independent Mobility (Parents' and Children's Group)

A further aim of this study was to verify if "We go to school alone" also influenced the autonomy of children in outdoor play, in going to meet friends, on running small errands, and so on. We wished to verify whether

the program had been successful in encouraging children's independent mobility by considering first the data obtained from the children's responses and then those obtained from the parents' responses. With the children's responses an analysis of the variance for repeated measures (Full factorial model) was calculated, which considered "children: independent mobility" in the two times as within-subject variables, the school attended as a between-subject factor and the child's age (in Time 2), gender and the mother's educational level as covariates. The interaction between time and school ($F = 12.05$ [2, 257], $p = .000$) was very significant (see Figure 2) demonstrating that independent mobility increased much more in the interval between Time 1 and Time 2 for the children of school S2[6] when compared to the children of the control school and of school S1. A significant interaction between time and age was also evident ($F = 4.27$ [1, 257], $p = .040$) suggesting that independent mobility increased mostly for older children. Finally, the tests of between-subjects effects confirmed that the boys ($p = .023$), the older children ($p = .000$), and those that attended School S2 ($p = .001$) had greater independent mobility.

Also calculating an additional ANOVA with the "parents: independent mobility" variables, obtained from the parent's responses in the two times, the effectiveness of the program was confirmed only in school S2. The interaction between time and school ($F = 19.72$ [2, 257], $p = .000$) was very significant as was that between time and age ($p = .000$). The test of between-subjects effects on "parents: independent mobility" showed—as did the analysis performed with the children's data—a significant effect of age ($p = .000$) and school ($p = .000$) but not child's gender. From the parents' data, instead, mother's educational level ($p = .001$) emerged as a significant

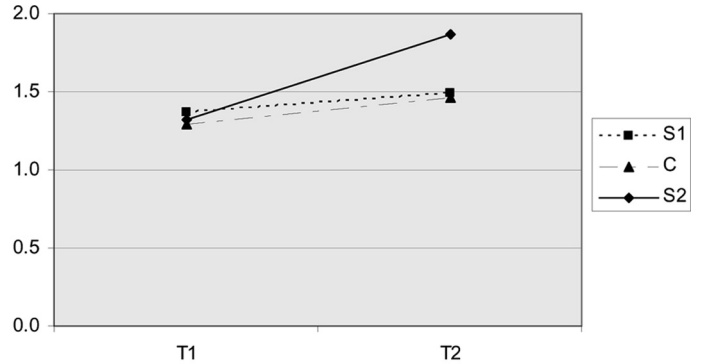

FIGURE 2 Children: independent mobility. Estimated marginal means (EMM) at Time 1 and at Time 2 for the three schools (parents' and children's group, $n = 270$).

factor evidencing a higher level of independent mobility in children whose mothers had lower levels of education.

DISCUSSION AND CONCLUSIONS

Both the analyses performed using the children's responses and those performed using the parent's responses confirm Tonucci's conclusions (2002) about the capacity of "We go to school alone" to stimulate a considerable increase in children's autonomy on the home–school journey and to modify parent's habits regarding the use of the car to take their children to school. The study also highlights how the effects of the initiative can have wider influence on the children's daily lives, also encouraging their autonomy in the use and exploration of public spaces. This aspect, previously unexplored in other studies, is particularly important because it confirms that it is possible to alter hyper-protective parental attitudes and to make parents aware of the children's need for autonomous movement. However, the research results also show that the success of "We go to school alone" is not assured. Despite following a very similar methodological route, only one of the two schools (S2) witnessed a significant change both in the children's autonomy in the home–school journey and in their independent mobility.

As other authors (Alparone & Risotto, 2001; Chawla & Heft, 2002; Hart, 1997) have already emphasized, the efficacy of this kind of initiative is dependant on many factors, among which are the level of child participation and the support offered by the local community's social and political organizations. With reference to the latter point, it should be remembered that in both Districts it was the local government that urged the initial implementation of the initiative, thus making it seem a predominantly political operation. However, the level of involvement and support to the initiative offered by the two schools (S1 and S2) as well as the level of collaboration between schools and districts was very different. In fact, in District II—where the initiative failed—the local government had little involvement in the proceedings, evidenced by the lack of valid economic and practical support.

It must be said, however, that school S1 is recognized locally as educationally avant-garde and that it started numerous other projects at the same time as "We go to school alone," in which it employed most of its available human resources. Misunderstandings thus arose between both parties: The district government believed it could delegate the responsibility for the initiative to a highly reliable school; the school for its part willingly welcomed the initiative, but it had expected more governmental support and thus limited the range of its activities. Finally, the families and children believed in the initiative and tried their best to collaborate, but were disadvantaged and challenged by the failure to involve the local community and from the consequent social anonymity in which the operative phase took

place. The parents' initial fears, caused by their children's first experiences of independent mobility, especially in a metropolis like Rome, were thus exacerbated and led them to object.

This shows how important is the involvement of the community, and the need of creating strong ties with those who are socially active and capable of supporting the children and their families, if this type of initiative is to be a success (Alparone & Rissotto, 2001). In contrast in the XI District there was convergence (Chawla & Heft, 2002) and synergy between the local government and social and educational components in making the initiative known to local residents. This was probably one of the reasons for the initiative's success. Visibility was linked primarily to the "tangible effects": the belief in the effectiveness of small changes (street signs and the footprints on the sidewalks), the spread of some of the initiative's benefits to another vulnerable part of the community (senior citizens helping each other with the shopping).

Among the factors that could have affected the two projects differently, the different characteristics of the two neighborhoods must be considered. In *Garbatella* a good social fabric, which facilitates an informal social control, and the lower volume of traffic certainly helped the initiative and may perhaps explain why the parents of this neighborhood, when compared to those of *Africano,* paid less attention to the problem of children's safety in the streets.

To conclude, the results of our study confirm the complex nature of community program initiatives particularly when they involve multiple constituents and require changes in many sectors of a neighborhood.

NOTES

1. All data were obtained from the National Institute of Statistics (ISTAT, 2005) and refer to an urban area (59,611 residents) that encompasses the Africano and Trieste neighborhoods.

2. All data were obtained from ISTAT (2005) and refer to an urban area (65215 residents) that encompasses the Garbatella and Ostiense neighborhoods.

3. We examined whether the children included in the parents' and children's group (all of whom completed surveys at both T1 and T2) and children whose parents completed no, or only one, questionnaire differed in school attended, class attended, age, gender, mother's age and educational level, distance from home to school, and level of autonomy at time 1. More children of the parents' and children's group attended the third class and tended to live nearer to school, while the others more commonly attended the fourth class and lived a little further away from school. The level of children's autonomy on the home–school journey and their independent mobility (as indicated by the children at Time 1) was similar in the two groups.

We also examined whether the parents who responded to the questionnaire both at time 1 and time 2 differed from the parents who responded only at time 1 with regard to the sociodemographic variables (children's school and class attended, children's age and gender, mother's age and educational level and the distance from home to school) and the level of autonomy of their children at time 1. The parents who responded to the questionnaire at both times, with respect to those who only responded at time 1, had a higher level of education ($\chi 2 = 11.10$, $d.f. = 4$, $p = .025$), lived closer to the school ($\chi 2 = 6.93$, $d.f. = 4$, $p = .031$), and their children were more often in third grade ($\chi 2 = 8.86$, $d.f. = 3$, $p = .031$). Instead, the level of their children's autonomy on the home–school journey and the level of their children's independent mobility (as indicated by the parents at time 1), was similar between the two groups of parents.

4. Note that the mother's level of education and the home–school distance could be gathered only from questionnaires completed by the parents. For this reason all of the ANOVAs were calculated using the data of the participants in the parents' and children's group.

5. This statement is based not only on examination of Figure 1 and the values of the estimated marginal means, but also on further analyses. In fact, in other repeated measures ANOVAs comparing the three schools two at a time confirmed that in school S1 (compared to the control school C) the initiative was not effective.

6. This statement is also based on the results of further analysis of the variance for repeated measures calculated by comparing the three schools two at a time.

REFERENCES

Alparone, F. R., & Rissotto, A. (2001). Children's citizenship and participation models: Participation planning and Children's Councils. *Journal of Community and Applied Social Psychology*, *11*, 421–434.

Bijörklid, P. (1995). Children-traffic-environment. *Architecture & Behavior*, *10*, 399–404.

Boggi, O. (2000). Portare i bambini in città. A scuola ci andiamo da soli [Bringing the children in the city: "We go to school alone"]. In C. Baraldi & G. Maggioni (Eds.), *Una città con i bambini. Progetti ed esperienze del laboratorio di Fano* [*A city with the children: Projects and initiatives of Fano's laboratory*] (pp. 121–150). Rome: Donzelli.

Chawla, L., & Heft, H. (2002). Children's competence and the ecology of communities. *Journal of Environmental Psychology*, *22*, 201–216.

Cooper, A. S., Andersen, L. B., Wedderkopp, N., Page, A. S., & Froberg, K. (2005). Physical activity level of children who walk, cycle, or are driven to school. *American Journal of Preventive Medicine*, *29*, 179–184.

Giuliani, M. V., Alparone, F. R., & Mayer, S. (1997, June 9–12). *Children's appropriation of urban spaces*. Paper presented at the Urban Childhood International Conference, Trondheim, Norway.

Hart, R. (1997). *Children's participation: The theory and practice of involving young citizens in community development and environmental care*. London: Earthscan Publications.

Hillman, M., Adams, J., & Whitelegg, J. (1991). *One false move . . . A study of children's independent mobility*. London: Policy Studies Institute.

Hüttermoser, M. (1995). Children and their living surroundings. Empirical investigation to the significance of living surroundings for the everyday life and development of children. *Children's Environments*, *12*, 403–413.

ISTAT (Istituto Nazionale di Statistica). (2005). *Popolazione residente e abitazioni nei grandi comuni italiani, 14th censimento generale della popolazione e delle abitazioni* [*Resident population and buildings in large Italian municipalities, 14th general census of residents and buildings*]. Rome: ISTAT.

Johansson, M. (2006). Environmental and parental factors as determinants of mode for children's leisure travel. *Journal of Environmental Psychology*, *26*, 156–169.

Kyttä, M. (2002). Affordances of children's environments in the context of cities, small towns, suburbs and rural villages in Finland and Belarus. *Journal of Environmental Psychology*, *22*, 109–123.

Mackett, R. L. (2001, May 17). *Are we making our children car dependent?* Lecture given at Trinity College, Dublin, Ireland. Retrieved February 18, 2007 from www.cts,ucl.ac.uk/research/chcaruse/

Matthews, H., & Limb, M. (1999). Defining an agenda for the geography of children: Review and prospect. *Progress in Human Geography*, *23*, 61–90.

Prezza, M. (2007). Children's independent mobility: A review of recent Italian literature. *Children, Youth and Environments*, *17*(4), 293–318.

Prezza, M., & Pacilli, M. G. (2007). Current fear of crime, sense of community and loneliness in Italian adolescents: The role of autonomous mobility and play during childhood. *Journal of Community Psychology*, *35*, 151–170.

Prezza, M., Pilloni, S., Morabito, C., Alparone, F. R., & Giuliani, M. V. (2001). The influence of psychosocial and environmental factors on children's independent mobility and relationship to peer frequentation. *Journal of Community and Applied Social Psychology*, *11*, 435–450.

Rissotto, A., & Giuliani, M. G. (2006). Learning neighbourhood environments. The loss of experience in a modern world. In C. Spencer & M. Blades (Eds.), *Children and their environments* (pp. 75–90). Cambridge: Cambridge University Press.

Tonucci, F. (1996). *La città dei bambini* [*The children's city*]. Bari, Italy: Laterza.

Tonucci, F. (2002). *Going alone to school: A proposal for autonomy*. Paper presented at the 17th Conference of IAPS, Culture, Quality of Life, and Globalization, La Coruna, Spain.

Tonucci, F., & Natalini, P. (2006). *Manuale metodologico "A scuola ci andiamo da soli"* [Methodological manual: "We go to school alone"]. Roma: Cangemi Editore.

Tonucci, F., Prisco, A., Renzi, D., & Rissotto, A. (2002). L'autonomia di movimento dei bambini italiani [The independent mobility of Italian children]. Quaderno n. 1 del progetto "La città dei bambini." Roma: Istituto di Scienze e Tecnologie della Cognizione del C.N.R.

Tranter, P., & Pawson, E. (2001). Children's access to local environments: A case study of Christchurch, New Zealand. *Local Environment*, *6*, 27–48.

Valentine, G. (1997). "Oh yes I can." "Oh no you can't": Children and parents' understandings of kids' competence to negotiate public space safely. *Antipode*, *29*(1), 65–89.

Van der Spek, M., & Noyon, R. (1997). Children's freedom of movement in the streets. In R. Camstra (Ed.), *Growing up in a changing urban landscape* (pp. 24–40). Assen, the Netherlands: Van Gorcum.

APPENDIX Methodology for Setting Up "We Go to School Alone" (adapted from Tonucci & Natalini, 2006)

Formation of an interdepartmental and intersectorial group in the local government (Departments of the Environment, Childhood Policies, Public Education, Public Works, Urban Mobility and Commerce)

- Choice of school(s) and inclusion of the initiative in the school's educational program
- Involvement of the teachers and of parents
- Commitment to also provide financial support for the initiative's activities

Preparatory activities (to be undertaken in the classroom with the children)

- Drawings and stories about the everyday habits of the home–school journey
- Identification of the difficult points on the route
- Drawing of topographical maps, both by individuals and by the class, showing an area of 1000/1500 meters around the school on which the children, with the help of teachers and parents, show the possible home–school routes and meeting points that they could all use
- Building of a *School Map* on which the class maps designed by the children can be reproduced
- Preparation of a list of requests for safety measures for the routes to be given to the local government

The choice of the route

- Identification of the meeting points on the *School Map*
- Choosing volunteers for supervision
- Surveys to identify danger points on the routes (children, parents, teachers, municipal police, District representatives)

The sensitization of:

- Local shopkeepers and craftsmen so that they will offer their shops as places the children can go to if necessary when out and about on their own
- Partnerships between citizens (e.g., senior citizens' centers, sports club) to supervise the routes
- The municipal police

The operative phase

- The launch of the initiative with a party at the beginning of the experimental week of "We go to school alone" (mayor and local councilors to be present, a band and street entertainers to be provided, as well as leaflets and decorations...). The children present the mayor with their list of requests for making the routes more secure and the parents follow the children from a distance and verify their capabilities
- From that day the children—or at least those whose parents allow it—go to school on their own, with their school mates

The continuation of the initiative

A high level of commitment is required to maintain the level of success obtained during the operative phase. Every year the educational activities for the first class will have to be repeated and more demanding and engrossing programs for the children and parents of the other classes will have to be developed. For example, the introduction of the *Pedestrian's License* (the children are given a card on which all their experiences of independent mobility—going to meet a friend, going to do some shopping, catching the bus, and so on—are noted and are then given a score), the *Cyclist's License*, and the involvement of children in checking that their rights as pedestrians and cyclists are respected.