PARENTS' AND CHILDREN'S PERCEIVED RISKS OF THE JOURNEY TO SCHOOL

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Résumé

Une importante étude récente a montré une augmentation substantielle, pendant les deux dernières décennies, des proportions dans lesquelles les enfants sont transportés à l'école et accompagnés par un adulte. Les risques perçus pour les piétons, associés à un doublement du trafic routier, sont considérés comme responables de cette évolution. Les conséquences sont une perte sévère d'indépendance des enfants et un déclin abrupt de leur liberté et choix. L'évaluation des chemins conduisant à l'école par quatre groupes d'enfants de 10 à 12 ans issus de quatre écoles différentes ont été comparés à celle de leurs parents avec des résultats conformes aux prévisions. En même temps, plusieurs facteurs dissuasifs possibles ont été proposés à l'examen. On a demandé aux parents d'évaluer la probabilité de treize risques connus et d'en nommer les plus sérieux. Pour onze d'entre eux, on a demandé aux enfants le degré de préoccupation qu'ils leur occasionnaient et la fréquence à laquelle ils y étaient réellement confrontés. Virtuellement aucune corrélation n'a été décelée dans l'ordre établi par les deux groupes. Les parents considèrent que le trafic est le risque le plus grand, mais les enfants en sont moins préoccupés et se comportent en conséquence.

Summary

An important recent study has shown substantial increases, over two decades, in the proportions of children being transported to school and accompanied by an adult. The perceived pedestrian risks, associated with a doubling in road traffic, are held responsible. The consequences are a severe loss of children's independence and a steep decline in their freedom and choices. The journeys of 10-12 year old children from four schools were compared with those of their parents, with results as predicted. However, a wider range of possible deterrents was explored. Parents were asked to assess the probability of thirteen familiar risks and to nominate the most serious. For eleven of these, children were asked the degree of worry they caused and the frequency of their actual experiences. Virtually no correlation was found between the rank orderings. Parents consider traffic to be the most serious risk, but children

are less worried by it and behave accordingly.

Introduction

A recurring theme of the Ascona Conference has been that rapid growth in adult uses of the environment, mediated through planning and architectural decisions, has been bought at the expense of the needs and interests of children. Children are primary stakeholders in the environment and it has been argued vigorously that they need to be *re-empowered.*

This assertion applies most obviously to the explosion in road traffic over recent years and this issue has attracted significant recent attention in the UK, following the publication of an important study entitled "One False Move...." (Hillman, Adams & Whitelegg, 1990; Hillman, 1993). This provides stark empirical evidence, based on surveys made in 1971 and 1990, that many more children are now transported to school by private cars and public transport. There is also a steep rise in the proportion being accompanied by an older person.

These restrictions of mobility go far beyond the school journey, with a significant decline in the proportion of children allowed to cross main roads, to travel on their own to leisure places, to use buses unaccompanied, to ride their bicycles on public roads or go out after dark. These changes add up to a considerable loss in freedom and choice and a consequent slowing of progress towards maturity.

Another thread in this argument was provided by a study conducted by the first author many years ago (Lee, 1957). This showed that the social-emotional adjustment of young children within school is negatively affected by long school journeys and that being transported has a more negative effect than walking. The difference was ascribed to a lack of spatial learning, a critical aspect of independence.

In addition to the negative effects on children's independence, there is extra traffic congestion at peak hours on roads already overloaded and the allocation of considerable adult time and resource to supervision, both with severe economic knock-on effects.

Meanwhile, the Government declares, with justifiable pride, that although traffic has doubled over the past twenty years, child fatalities have almost halved. The thesis of Hillman et al (*op. cit.*) is that accidents have declined not because the roads are safer but because "children can no longer be exposed to the dangers they pose . . . .".

The aim of the present study was first to confirm the changing pattern of school journeys by comparing those currently undertaken by a sample of children with those of their parents. Secondly, to explore not only traffic, but also a wider range of hazards that might be acting as deterrents and the perceptions of these by both parents and children.

Outline of procedure

The parental questionnaire asked parents to assess the likelihood of thirteen well-known hazards that might afflict their children on the way to school. These were traffic accidents; injuries from falling; getting lost; being bullied; smoking; shoplifting; engaging in vandalism; sexual assault; abduction; being taken seriously ill; being bitten by a dog; playing truant and becoming the victim of racial harassment.

A probability scale with verbal markers from 'almost impossible' to 'quite likely' was used.

It was felt that parents' own past experience of some of the main hazards might influence their perceptions and they were therefore questioned on their direct and indirect experience of traffic accidents and physical assaults.

The remaining questions referred to their assessment of the child's personality (using an adjective checklist); the child's enjoyment of school and his/her general health. Also, the type of neighbourhood in which they live and some details of the child's school journey including the distance, mode, number of main roads, use of crossings etc. Some additional details of the journey were elicited from the children themselves. Parents were then asked about their own journey at a similar age.

The children's questionnaire asked pupils to evaluate eleven of the thirteen hazards (see above) on a 4-point scale from 'not worried at all' to 'very worried'. Racial assault and abduction were excluded from the list of potential crimes presented to the children, because it was felt by the teachers that some parents would not wish to create anxiety over these unfamiliar risks, at least until their children were older.

Questions were also asked about actual experience of the hazards. Limitations on the length of the questionnaire restricted this to only eight items (falling, getting lost and being ill were excluded) and to a simple 'yes/no' format.

There are obvious ethical problems in questioning children of 10-12 years old about whether they have ever, or will in the future engage in some of the voluntary but forbidden forms of behaviour of which their teachers and parents may be fearful. In consequence, although we were able to ask children whether they had been bitten by a dog, bullied, approached by a stranger or had a road traffic accident, we were obliged to ask if they had ever been "*tempted*" to engage in shoplifting, vandalism, truancy or smoking.

The four schools involved had a roughly equal number of pupils and were all on the outskirts of a large industrial city. The children were drawn from classes where, on the advice of teachers, the children are sufficiently mature (10-12 years) and independent to be exposed to hazards while still being a source of concern for the parents. They were also old enough to be able to cope with a structured but simple questionnaire form.

A total of ninety-two questionnaires was distributed to parents and only nine parents

failed to return them, giving a sample of eighty-three parent/child pairings.

Results

The parent sample

Using chi-square, it was confirmed that there were no significant differences between the parent samples from the four schools. This applied to the biographical variables of age, social class and marital status but also to their past experience of accidents and assaults and the neighbourhood variables.

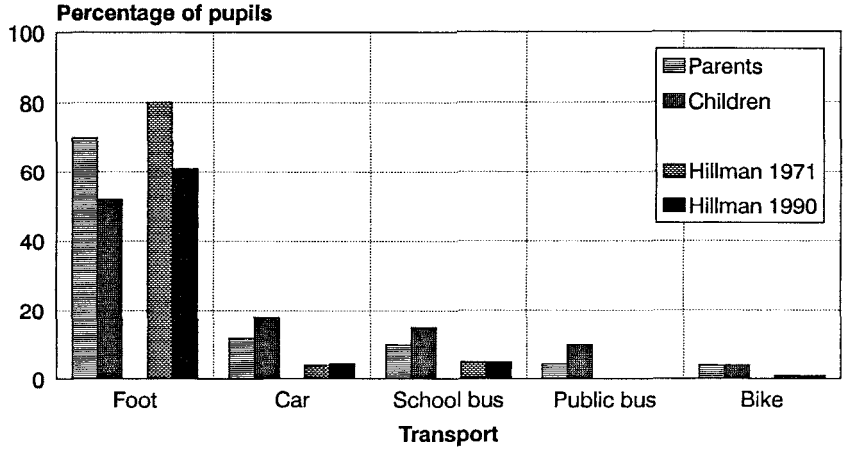
As indicated earlier, only about 5 percent of parents live in a town or city, whereas the majority (67 percent) live in sizeable 'dormitory' villages or a small town, while the remaining 28 percent live in the countryside. All parents gave a positive rating of their neighbourhood, 85 percent describing it from an adjective check list as "orderly", "respectable", "safe", "supportive", "law-abiding" etc.

Referring to *defensible space* considerations, not all the parents live in an area that is open to general surveillance. About one third report that they live in a partially or totally secluded area. However, 80 percent expressed confidence that local residents would report crime to the police if they observed it. Of these, 28 percent lived in a 'neighbourhood watch' area, so crime must be sufficiently omnipresent for such precautions to be justified.

Inter-generational changes in the school journey

As will be seen from Fig. 1, there has been a substantial reduction in walking journeys with increases in car and bus across one generation. The effect is similar to the Hillman et al data, which are also shown. The number of children accompanied (66% in both samples) has not changed, but of those who are accompanied, there is a six fold increase in the likelihood that the companion is an adult. The switch to transport has considerably reduced the *time* spent on the journey, further eroding the spatial and social learning experience. Another significant effect is that, in the parent sample, 66% made two return trips per day (going home to lunch) whereas this is halved to 33% in their children.

FIG. 1 - TYPE OF TRANSPORT USED TO TRAVEL TO AND FROM SCHOOL



Parental perceptions of risks

Means of parents' probability ratings for each of the thirteen hazards were computed and the rank order is shown in Table 1. It will be seen that the most *probable* hazard (not the most serious!) is seen as tripping or falling but that this is placed only just above the median point of the scale, i.e. it is "possible but not likely", approaching "just likely".

As predicted, 'being bullied' emerges as a risk with relatively high probability, exceeding the risk of a traffic accident.

Obviously, the results in Table 1 must be interpreted in relation to the age of the child and this will account for the relative *improbability*, as perceived, of smoking, shoplifting, truanting and vandalising.

On the other hand, although more than half the children walk to school, there is no apparent overall concern on the part of the parents that they will "lose their way" at this age. However, it will be seen later that this conclusion has to be qualified for parents living in secluded areas, and this provides some confirmation of the Lee (1957) results, although children in the present study are older.

However, it is necessary to emphasise that these parental estimates do not take account of severity, only of probability. For this reason, we included a question that asked parents to name the *most serious risk* to which their children were exposed on the way to and from school and the results of this are shown in Fig. 2. Not all parents responded, but it will be seen that when seriousness is considered, the risks of road traffic accidents exceed, by far, all other estimates, including bullying. It is nominated by 67% of parents, followed by bullying (12%); being abducted (8%); caught in bad weather (8%) and tripping or falling (5%). In general, these findings, and those relating to changes in the school journey, confirm the thesis advanced in 'One False Move'.

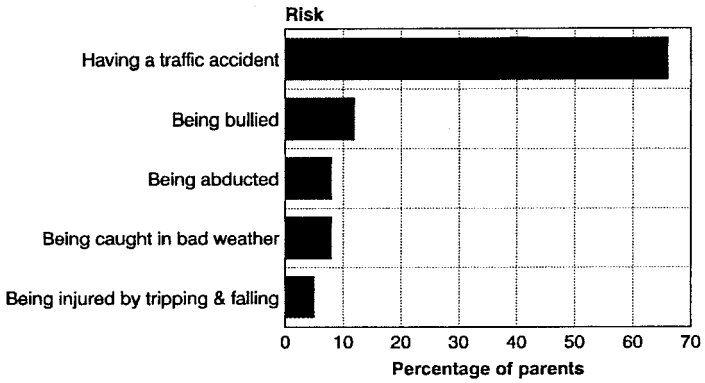
Table 1 - RANKINGS OF PARENTS' PROBABILITY ESTIMATES, CHILDREN'S CONCERN RATINGS AND ACTUAL EXPERIENCE OF RISKS

	PARENTS' RATINGS	CHILDREN'S RATINGS	
	The event most likely to occur	The cause of most worry	Experience or 'temptation'
Just likely			
	1. TRIPPING	1. SMOKING	1. APPROACHED BY STRANGER
Possible, not likely	2. BULLYING	2. BULLYING	2. TRUANTING
(mid point)	3. TRAFFIC ACCIDENT	3. APPROACHED BY STRANGER	3. BULLYING
	4. BITTEN BY A DOG	4. BITTEN BY A DOG	4. TRAFFIC ACCIDENT
	5. TAKEN ILL	5. VANDALISM	5. VANDALISM
	*) BEING ABDUCTED		
Just possible	6. SEXUAL ASSAULT	6. TRAFFIC ACCIDENT	6. SMOKING
	7. SMOKING	7. TRUANTING	7. SHOPLIFTING
	8. SHOPLIFTING	8. TAKEN ILL	8. BITTEN BY A DOG
	9. TRUANTING	9. TRIPPING/ FALLING	
	10. VANDALISM	10. SHOPLIFTING	
	11. GETTING LOST	11. GETTING LOST	
Almost impossible	*) RACIAL ASSAULT		

*) Not included in children's questionnaire

FIG. 2 - PARENTS' PERCEPTIONS:

MOST SERIOUS RISK CHILD IS EXPOSED TO



N = 59 (Missing data : 24)

Children's worries and direct experience compared with parental perceptions

Table 1 also includes a comparison between the children's' ranked assessment of worries alongside their parents' ratings of probability. There is a small but insignificant correlation (rho = .273).

Parents as a group rate more highly than their children the risks of having a traffic accident. Children put their concerns about traffic accidents very low, in sixth position, whereas their parents put it third *in probability* as well as nominating it as the *most serious* risk when asked the open-ended question. Moreover, it lies fourth in the ranking of children's direct experiences of hazards. But neither this, nor their parents' assessment of the risk, has been translated into equivalent action.

Of those children who have to negotiate a main road to reach their school, where either a zebra or pelican crossing is provided, 93% say they never use this facility, while the remainder do "usually" (5%) or "sometimes" (2%). Also, where there is a main road immediately outside the school which is supervised by a "lollipop" attendant, only 56% of the children in one of the schools say that they cross at this point, although 74% of parents expressed confidence that they did so. This mismatch between parental risk perceptions and children's concerns is further compounded by the fact that 23% of parents whose children walk to school admit to not knowing the route they take.

Turning to bullying, there is agreement between parents and their children that this hazard is a serious one. It is placed second in order of importance on both scales and third in children's direct experience. It should obviously be taken very seriously. A recent UK Government initiative has made it mandatory for all schools to address this problem specifically and to submit an action plan for contesting it.

The risk about which children themselves are most concerned is smoking, but it

would appear that parents underestimate its impact on children at this tender age. They are probably wrong in this, although paradoxically, children place it low in their ranking of *direct* experience.

The same may be said of molestation - 'being approached by a stranger' is rated third as a source of worry by children but sixth by parents. In this case the parental assessment of probability is more likely to be correct but children's concerns may be disproportionately great because of exposure to the media and possibly because warnings from parents have captured their imagination at a stage where curiosity over such matters is beginning to awaken. This *successful* alerting (by contrast with traffic risks) may also account for the fact that 'approached by stranger' is the most frequent *direct experience of hazards* reported by children. Most of these approaches are undoubtedly wholly innocent of course, but apparently significant to the children.

Another important underestimate by parents relates to vandalism, ranked tenth by them but fifth by children both as a source of worry and as a direct experience. Generally, there is no difference between schools in the children's worries - but vandalism is the exception. It is more common (Chi-square = 18.88; p = .000) in one school than others and the children are correspondingly more concerned about it (F = 5.642; p = .003). Those who worry about this risk are significantly less happy at school (F = 9.728; p = .000). They are also more likely to be tempted to play truant (Chi-square = 5.893; p = .015). In the same school, children are more tempted to shoplift (Chi-square = 12.068; p = .007) and report being approached more often by strangers (Chi-square = 24.858; p = .000).

The underestimations by parents are counterbalanced by their top assessment of 'tripping and falling' - a hazard that, though admittedly probable, causes very little concern to children.

Overall, there is no correlation between children's worries and their own experiences, or between parents' probability estimates and children's experiences (rho = .096 and .092).

Variables that might influence the risk perceptions of parents

The parents' experience of traffic accidents is considerable. It may not be surprising that 90 percent know one or more adults who have been involved in an accident, but it is unexpected that 67 percent have been involved in at least one accident themselves and 26 percent have one of their own children (not necessarily the child in the present sample) who have themselves experienced a traffic accident of some kind. (It should be noted that this accident to a child would quite often overlap with that of the parent). Parents whose child has already been involved in a traffic accident rate the probability of a future one higher (F = 3.387; p = .039).

The unique character of a school and perhaps the social mix of its pupils, can result in different adverse experiences for the child. No variable other than the school was found that correlated with these experiences. The point is further strengthened by the

finding of large differences in the percent of pupils that don't enjoy school. The school referred to had 30%, compared with 26%, 18% and 5% respectively in the others.

The parental experience of assault is also extensive, with about a quarter knowing other adults who have been assaulted more than once in a public place and 11 percent having had direct experience themselves. A further 6 percent know a child who has been assaulted *more than once*.

Although now living a 'country' or small town life, many of these parents were doubtless reared in or very close to the nearby city and this shares in full measure all the problems of crime associated with industrial, inner city conditions.

However, the critical question posed by the present study is whether these baleful experiences lead to an enhanced perception by parents of the risks to which their children are exposed and whether, by this means or directly, the children experience greater worry or concern. In the present study, no such correlation was found.

The parents' evaluation of their own school journey is another 'variable' that might have some influence on the child. It was found that 67 percent of parents remember their school journey as pleasant, 28 percent as nondescript and only the remaining 5 percent as unpleasant. But again, no significant relationship was found between this assessment and their child's ratings of concern.

Further variables that might explain differences in parental perceptions of risks were explored using one-way analysis of variance. Marital status, social class and sex of the child were unrelated to risk perceptions. Rather surprisingly, no consistent differences were found for different lengths of journey or mode of transport. However, parents in two schools where pupils have to cross main roads and where the majority walk to school are more likely to assess traffic accidents as the most serious risk (Chi-square = 29.945; p = .012).

Parents living in secluded areas rated the probability of their child being lost as higher than others. They also put a higher probability on trips and falls ($F = 4.516$; $p = .006$).

The perceived probability of sexual assault is related to age of parents, with the main, older (36-44 years) group of parents rating it highest ($F = 3.615$; $p = .009$). This may reflect longer exposure to the informal networks and media reporting of such incidents. Also, they are more likely to have older children than the one in the sample and these may be seen as more vulnerable.

Children rated as introverts by their parents are seen as more likely to have trips and falls on the way to school. This is counter intuitive; it would normally be expected that uninhibited forms of play would cause accidents of this kind. We can only conclude that parents are more concerned over a sensitive child than over a robust, sociable one.

Bullying is almost certainly the hazard which causes most unhappiness over school attendance and parents who rate bullying as more probable, also assess their children as enjoying school less ($F = 4.564$; $p = .005$).

Conclusions

There are clearly methodological weaknesses in the present study. The most obvious one is that the main comparison is between parental estimates of *probability* (excluding severity) and children's estimates of overall '*worry*'. This arose because it was concluded, on advice from teachers, that children of 10 would be unable to apply the concept of probability consistently. Future research should attempt to verify this by exploring the use of simple graphic scales or perhaps paired comparisons. The separation of probability from severity in both samples would also be an advantage.

Another difficulty lies in comparing rankings between lists of differing length, although the qualitative indications remain unequivocal.

One positive aspect of the methodology is that, with one exception, no significant differences in parental or child experiences or perceptions were found between the four schools. This provides some confirmation of the reliability of the data. The exception relates to vandalism and in this case there is a corresponding difference in the incidence of the behaviour and of some related misdemeanours.

The low correlation between risk perception and 'reality' is by no means unique. The definition and assessment of so-called 'objective' risks is almost always dubious. In the present study, we had to rely on the percent of children reporting an experience for an approximation of objective frequency. It is difficult to see how these data could easily be improved upon, but the use of daily diaries over a short period in a large sample is one possibility.

The almost total lack of correspondence between the risk perceptions of two cultural groups, *i.e.* parents and children, with contrasting needs, past experiences and peer pressures, also confirms general findings in the field.

The practical consequences of this mismatch are clear. Children's attitudes towards a hazard predispose their behaviour and if a risk causes concern, they will take care over it and vice versa. In the present sample, parents appear to have communicated, for example, a high assessment of the risk of being approached by strangers and a relatively low assessment of the risks arising from traffic. Of course, it has to be acknowledged that parents are not the only tutors; peers and teachers also influence risk perceptions and it seems likely that the enhanced concern over smoking comes not from parents but from peer pressures.

The explanation offered by Hillman et al. (*op. cit.*) for the changing attitudes of parents is mainly in terms of *risk compensation theory*, *i.e.* that increasing (or decreasing) danger is compensated by voluntary, often unconscious, corrective actions. Earlier versions of the theory were labelled "homeostasis". One problem with this theory in the present case is that it does not explain a considerable

over-compensation. Moreover, it is clear that concerns over risks other than traffic play some part and there also appears to be a steady cultural increase in the value put on human life and wellbeing with a corresponding increase in the public's preoccupation with safety. At a more prosaic level, more parents own cars.

Overall, the thesis of Hillman et al (*op. cit.*) receives strong support. However, it is clearly a question of values how the trade-off should be made between children's safety and their independent mobility.

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