

Children and Their Living Surroundings

Empirical Investigations into the Significance of the Living Surroundings for
the Everyday Life and the Development of Children

Marco Hüttenmoser

Dokumentationsstelle „Kind und Umwelt“ CH- 5630 Muri

Zürich Switzerland

At the core of the presented results is the investigation of five-year old children and their families. Two contrasting groups were investigated: In the first group, children from A-families were raised in living surroundings in which it was possible for children to play both unhindered by street traffic and without the presence of adults. In the second group, however, the children from B-families couldn't leave their residence unaccompanied by adults. The results are based on: (a) an intensive study of twenty families; (b) a telephone survey of 1,726 families in the city of Zurich and (c) a written survey of 926 families whose five-year old children were cared for at home. The results show that unsuitable living surroundings considerably hinder the children's social and motor development and put a heavy strain on the parents. Unsuitable living surroundings, that is mainly those living surroundings dominated by street traffic, prevent the development of lively neighbourhoods capable of mutual help.

Preliminary Remarks

Children grow up in various environments which differ according to personal and spatial conditions. Each of these environments has effects on the daily life and the development of children. It is, thus, not unimportant whether a child in his/her first years can develop a close relationship towards one single person, for instance, the mother, or to many different people, for example, the father, other children, grandparents and other adults. The same goes for various spatial surroundings, whereby these - in the sense of "behavior settings" (Barker 1963) - are mostly closely connected with certain actors and actions. The present study deals with such a "behavior setting", namely the living surroundings. By this term we understand both semi-public and public space - such as, grassed areas, paved areas, paths and streets - which one finds when one leaves the house through either the front door or the side door. Private gardens thus provide a kind of bridging zone. If they open to the outside, they gradually merge into public space; if they are closed to the outside, they are to be considered private.

In order for living surroundings to become significant in the daily life of children, these surroundings have to be accessible, open to play and frequented by other actors, especially by children. Deserted living surroundings are not used, at least for an extended duration, by a lone child.

Over the last few decades, living surroundings have undergone the most substantial reduction, historically seen, through heavy increases in street traffic. (Hüttenmoser 1991) When living surroundings are not free from motorized traffic, or when the vehicles do not drive slowly or take children into consideration, parents won't allow their children to play outside alone. For children as well as for parents, however, it is decisive that unaccompanied play be possible.

On the basis of these prerequisites, we observe two distinctly different groups of children, and their families, in our present society. To begin with, there are children who can play out of danger from street traffic in their living surroundings. They clearly differ from those children who are deprived of this possibility. The parents of the latter are forced to accompany their children or to have them accompanied whenever they leave the house. Both family types form the centre of the presented investigations. The former, we have named A-Families, and the latter B-Families.

Structure of the Investigation

The investigations which we carried out lasted five years. (1) They were financed by the Swiss National Fund (Schweizerischen Nationalfonds) and by the city of Zurich. All were carried out in the city of Zurich.

In a first phase - which will henceforth be referred to as *Intensive Investigation* - we thoroughly investigated 20 families using both qualitative and quantitative methods. The families had to meet various conditions. They couldn't have moved from their living surroundings during the past two years. The eldest child in each family (a total of 10 boys and 10 girls) was five years old and about to enter kindergarten. All families belonged to either the middle- or upper-middle class. On the basis of our own observations and a first parent interview, we chose the families thus: ten families who could allow their five-year old child to play unaccompanied in the living surroundings (A-Families) and ten families who because of their living location and the street traffic could not (B-Families) do so.

In a second phase, we carried out various *interviews*. To begin with, we enquired *by telephone* about the special features of the living areas of all parents with five-year old children in the city of Zurich (N = 1,729). We enquired further about their moving habits, their form of child care and the children's route to kindergarten. Those parents who had not changed their living surroundings

during the past two years and whose children were cared for at home (N = 926) were sent an extensive *written* questionnaire following the telephone interview.

For the evaluation of the written interview, we established two *contrasting groups* (A and B Families). Thus, to a large degree, we had the same starting point as in the Intensive Investigation. To ensure that children of A-Families actually did play unaccompanied outside and that children of B-Families did not, we reduced both groups to those parents who had answered the relevant questions consistently. The A-Parents who took the written interview (N = 483) are therefore those who *consistently* let their children play outside, the B-Parents (N = 93) were those who equally *consistently did not*.

The following presented results focus on both the Intensive Investigation and the A/B comparison carried out in the written interview. The results were usually examined by establishing indicators and could thus be confirmed to a large extent for the whole group (N = 926).

The quantitative evaluations within the Intensive Investigation were made according to the U-Tests of Mann-Whitney ($p < .05$); the evaluation of the questionnaire according to the Chi-Square Test ($p < .005$). The closeness of the relation between the different variables were calculated with the Cramers'V value.

Selected Results

Because of the large number of varying results and the limited scope of this article, we limit ourselves here to the most significant results. Both the Intensive Investigation and the written interview were presented in extensive research reports.

Children's Time Spent in Living Surroundings

As to the duration of children's outside play and the size of their playing area outside their home, the results of former investigations can be referred to. Appleyard and Lintell (1972) already pointed out that the space within which children can move freely shrinks significantly as street traffic increases in the immediate environment. This fact was also established later by Bargel et al (1982) and Schmidt-Denter (1983).

The present investigation confirms these results. If we correlate the duration of time spent outside by all five-year old children of the written interview (N = 926) with the quality of the living surroundings, we observe a clear connection between the dangerousness ($p = 0.000$; Cramers'V = 0.287) and the perceived attractiveness of the living surroundings ($p = 0.000$; Cramers'V = 0.264).

It goes without saying that B-Children also play in their living surroundings; however, they are accompanied and the time spent outside is, as expected, considerably shorter ($p = 0.000$; Cramers'V = 0.686) than that spent by A-Children. How this significant difference between the two contrast groups emerges reveals itself by comparing time spent outside.

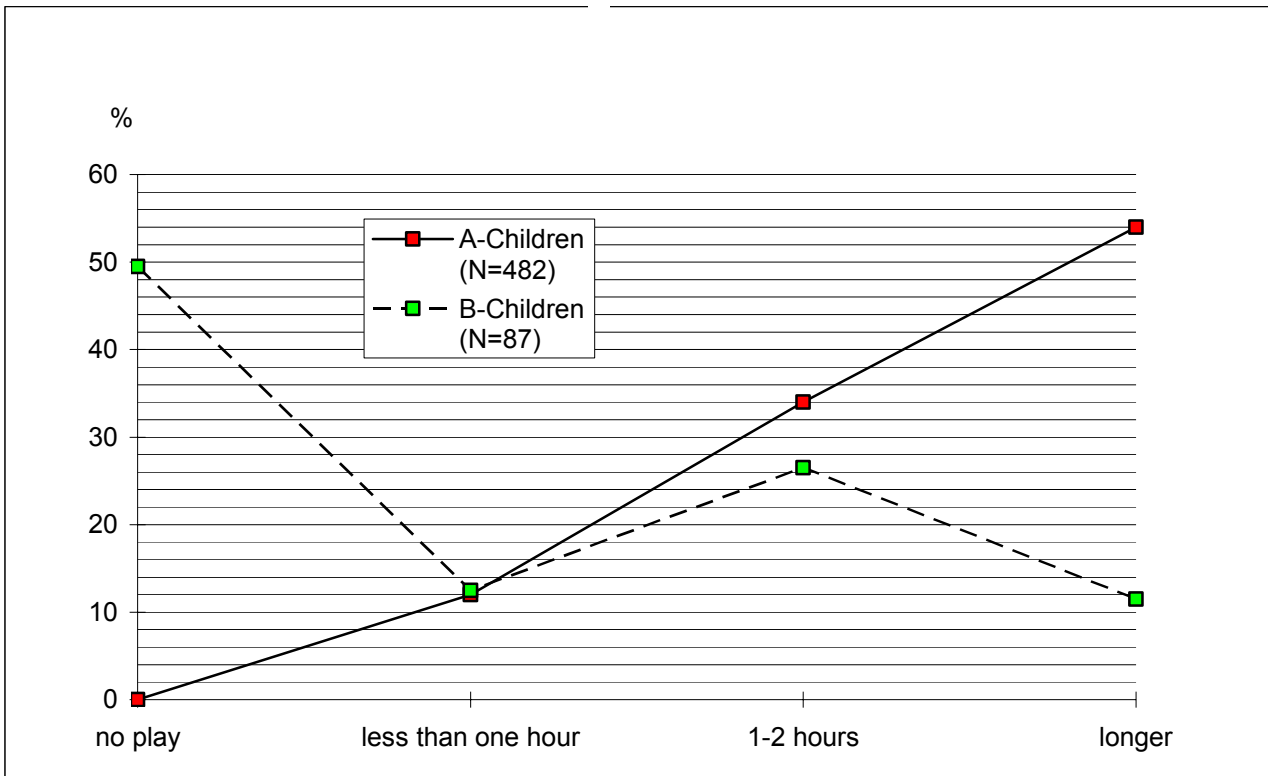


Figure 1. Duration of accompanied and unaccompanied play in the living surroundings

If a child has to be accompanied by an adult within the living surroundings (B-Children) - apart from the fact that half of these children don't actually play there - the adult reaches the limits of his/her possibilities within one to two hours. Children, on the other hand, who have the opportunity to spend time alone outside (A-Children) play to a large extent more than two hours per day in their living surroundings.

Social Contact in the Living Surroundings

It's obvious that when the freedom of movement within the living surroundings is significantly reduced, the opportunities for social contact with other children are also reduced. This has already been proven by Engelbert (1986) and Blinkert (1993). The present study confirms these facts.

It was already revealed in the Intensive Investigation that children from B-Families don't have even half as many playmates in the immediate neighbourhood as children from A-Families.(12.0: U-Test

according to Mann-Whitney; $p < .05$). The results, not unexpected but still surprising in their clarity, show the same difference at the level of parents with regards to their social contact with other adults in the immediate neighbourhood. A-Parents are acquainted with a total of 81 other adults in the immediate neighbourhood, while B-Parents are acquainted with only 37 (8.5: U-Test according to Mann-Whitney, $p < .05$)

In the theory of the effects of different environments on the child, it is repeatedly emphasized that it depends less on the material environment than on the way the environment is mediated for the child. (Schneewind et al. 1983; Kaufmann et al. 1980 and even more Scarr 1992). Without denying the importance of mediating the environment for the child, it must be said that such general models for explaining these effects are pointless. Every environment has its own special qualities which can be mediated to a better or lesser degree. So, for example, the impact of the media is more open to a steering mediation process. But how should living surroundings which, because of motorized traffic, endanger the child be mediated so that play is actually made possible? Aside from the unlikely possibility of moving and finding more suitable living surroundings, there are almost no other alternatives of control for parents.

As much research shows, mediation processes strongly depend on the education of the parents, on the family income and, in general, different class variables. If our view is correct, that is, that unsuitable living surroundings are difficult to mediate, then the different class variables will have little effect on the social behaviour of people in the living surroundings. This is exactly the case, as the following table shows: The actual difference in relation to the number and intensity of social contacts among the children and among the adults lies between the two contrasting groups (A/B) which differ according to the circumstances of the living surroundings.

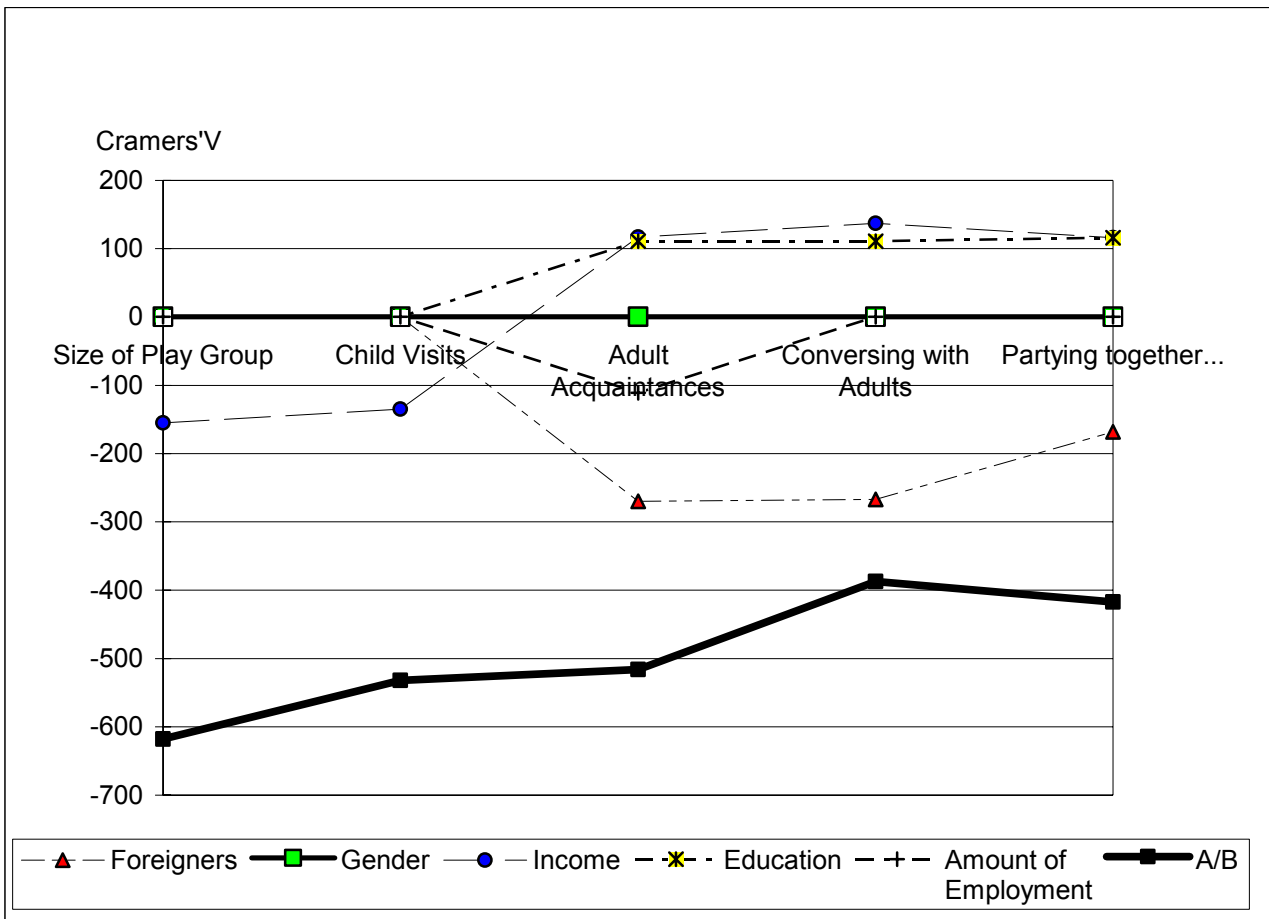


Figure 3. Social contacts in the living surroundings – comparison between various social characteristics and the contrast groups A/B

The presentation in Figure 3 is somewhat unusual in that it shows differing influences on the level of the Cramers'V Value. That means: All values which are, according to the Chi-Square Test, not significant (for example, gender) are found at the zero axis. We have depicted all significant values by means of Cramers'V Values. This presents a vivid picture of the respective strengths of the relation between the differing variables of influence.

The number of children with whom a child plays in the living surroundings (*size of play group*) and whom a child visits at home (*child visits*) does not depend on the different class variables but rather on the circumstances of the living surroundings (A/B Comparison). The influence of differing class variables becomes more prominent when it comes to social contacts among adults in the living surroundings (*Adult acquaintances; Conversing with adults; Trips taken together and Partying together*). But even on this level, the influence of the circumstances of the living surroundings is stronger.

The conclusion is inevitable: It is above all unattractive living surroundings with heavy street traffic which hinder unaccompanied play and restrict opportunities for social contacts among children and adults. What we would describe as a lively neighbourhood can't be achieved in unfavourable living surroundings.

Reciprocal Assistance

The effects of living surroundings which are unsuitable to children's play are not confined to a decrease of mutual social contacts. They also don't encourage spontaneous neighbourly assistance, or if so, only to a lesser extent. We would like to illustrate this point with the following example of child care.

It was already revealed in the Intensive Investigation that, in comparison to B-Parents, A-Parents know three times as many adults in their immediate neighbourhood who are willing to take care of their five-year old child for an hour or more. In the written interview, the results were confirmed: 95% of all A-Parents have neighbours who take care of their child, whereas in the case of B-Parents, only 60% do.

A comparison of the differing variables of influence show us again that the connection between the availability of baby-sitters in the neighbourhood and the different class variables is small; however, the connection between this availability and the circumstances of the living surroundings is considerable. As Table 3 shows, what is important is not only whether baby-sitters live in the area (*B.living in the area*) but also the total number of available baby-sitters (*Number of B.*) and one's own readiness to take care of children from neighbouring families (*B. for neighbours*) . (As to the special features of Figure 4, see our explanations of Figure 3)

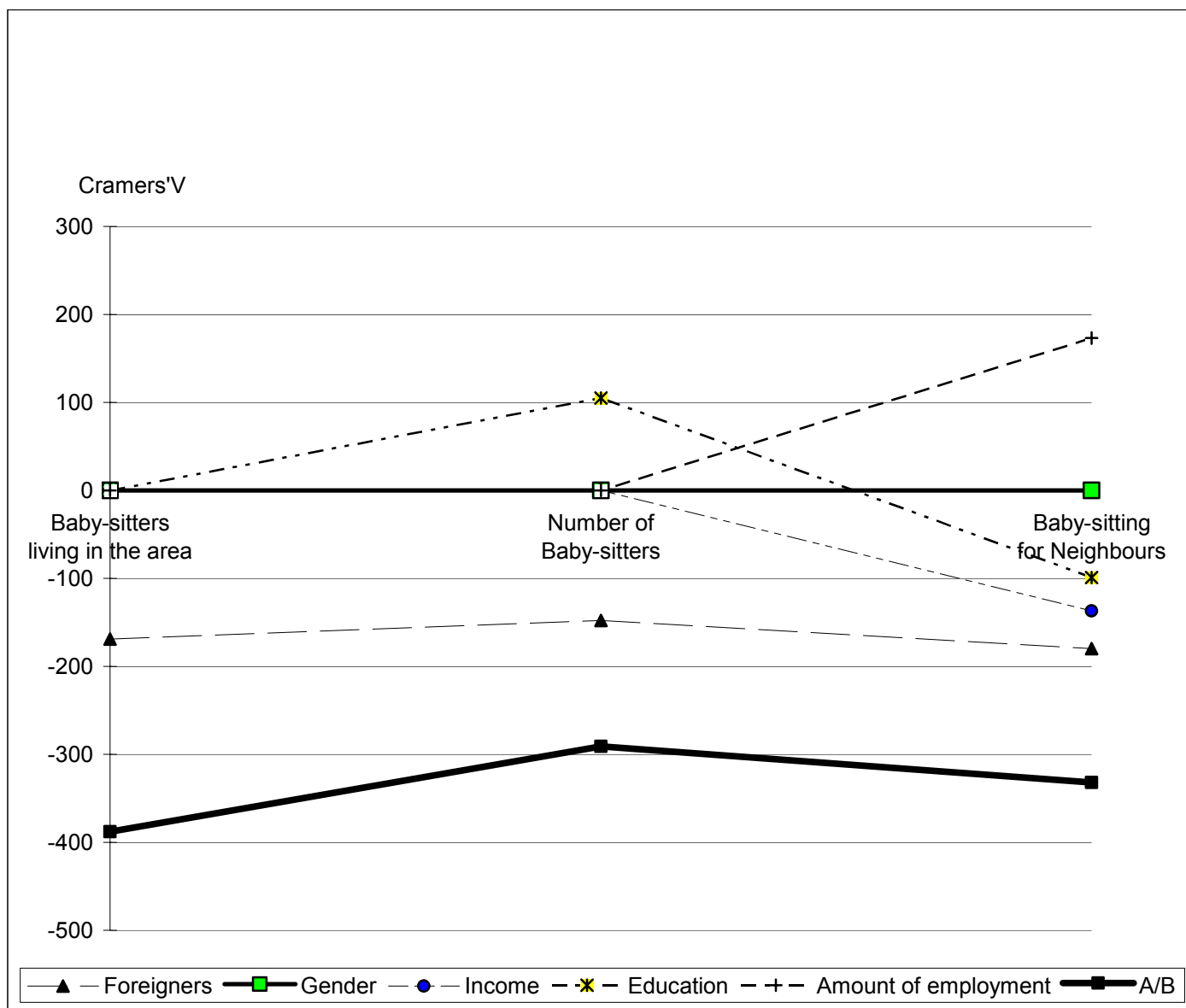


Figure 4. Child care – comparison between various social characteristics and the contrast groups A/B.

At this point, the following can be stated: Living surroundings which do not allow children's unaccompanied play due to a lack of attractive play area or to the danger created by heavy street traffic not only significantly restrict the space within which children can move freely but also lead to a reduction of social contacts among children and adults as well as mutual assistance such as baby-sitting. This means that whether a lively neighbourhood can develop or not depends essentially on the quality of the living surroundings.

The Development of Children

The assessment of the state of a child's development requires thorough analyses, observations and tests. This could only be achieved in the framework of the Intensive Investigation, that is, with twenty children in total.

The parents of these children were first questioned thoroughly about their children's early childhood development (Flehmg 1973; Schlienger 1983); we then analysed the visual capacities (Frostig 1987) and the temperament of the children (Chess and Thomas 1986, 1987). In these areas, there were no significant differences between the 10 A-Children and the 10 B-Children. Proceeding thus, we could ensure the following to a great extent: Differences in areas with supposedly no connection between living surroundings and development cannot be attributed to early effects or innate special qualities.

A differentiated scrutiny of the motor skills (MOT 4-6; Zimmer and Volkamer 1984) as well as the social behaviour and the independence (Duhm and Althaus 1979) clearly show marked differences between the two groups of children. Regarding the motor skills, we found - using the U-Test from Mann-Whitney ($P < .05$, $N=20$) - a significant value of 27.0. Regarding the social behaviour an equally significant value of 25.5 resulted. Differences emerged, not only in the total value, but also in varying degrees in all measured dimensions. Children who can't play unaccompanied in living surroundings are worse off than the children of the privileged group.

In a discussion with children about friendship, based on a series of presented pictures, (Schüttler-Janiculla 1977) children from good living surroundings report much better about activities they share with friends and suggest more possibilities for solving conflicts.

Is Compensation Possible?

Considering the significant differences between children who grow up in different living surroundings, the question is raised: To what extent can parents compensate for the disadvantages of living surroundings through additional activities?

To answer this question, it is important to visualize, once again, the composition of A- and B-Families.

As to the 20 families of the Intensive Investigation, they are exclusively families of the middle and upper middle-class. The mothers either don't work at all or only part-time. Some of them share child care with their partners. According to the results of the oral interviews, B-Parents undertake a lot to compensate for the disadvantages of the living surroundings.

The same is true for B-Parents who responded to the written survey. In this B-Population all social classes are represented, but compared to the A-Parents, they form a more active group. For instance, more children of B-Parents attend a play group. These parents also go on more excursions and they visit friends more often.

Altogether over 80% of the B-Parents who responded to the written survey find it necessary to organize opportunities for their child to play with other children; in comparison, only 40 % of the A-Parents consider this a necessity. The difference manifests itself especially in the use of *public* playgrounds. (In this instance, we refer to the fact that the playgrounds which are integrated into residential areas are part of the living surroundings and are not considered as public playgrounds). Over 60% of the B-Parents take their children two to five times a week to a public playground whereas only 25% of the A-Parents do so.

The considerable efforts made by parents of children in unfavourable living surroundings obviously do not have the desired effect, otherwise such serious differences between the two groups would not exist.

Comparison of Playgrounds and Living Surroundings

The reason that the parents' compensatory efforts have little effect on the everyday life and the development of the children lies in the quality of the substitution activities which are offered.

Attending a playgroup and other numerous activities as well as joint visits to public playgrounds are all subject to strong *time limits*, in comparison to play in living surroundings. (See Table 1). Thus four, five or more hours of play in the living surroundings on a nice day are no exception if unaccompanied play is possible.

It is the living surroundings exclusively which offer children the opportunity for *independent* activities. Playgroups and other institutions are always more or less observed and taken care of by adults. Usually, public playgrounds are not to be visited by young children on their own. In the city of Zurich, only 8.6% of the children had visited a public playground on their own before entering Kindergarten at five years old, even though the availability of playgrounds in the city is quite good: For 36% of the children, the nearest playground is not more than five minutes away; for another 29%, it is within six to ten minutes' reach. In this age group, the unaccompanied play in public playgrounds is rather the exception.

A comparison of children's activities on the playground and in the living surroundings makes it

apparent why these substitution activities which are offered don't really meet the needs of the children.

Several former investigations have already shown that the quality of play on public playgrounds remains beneath the desirable standard (see Hüttenmoser 1994). We wanted to find out more about this matter and compared the activities of 700 children chosen from our written interviews who play both on public playgrounds and in the living surroundings. The results are compiled in table 4.

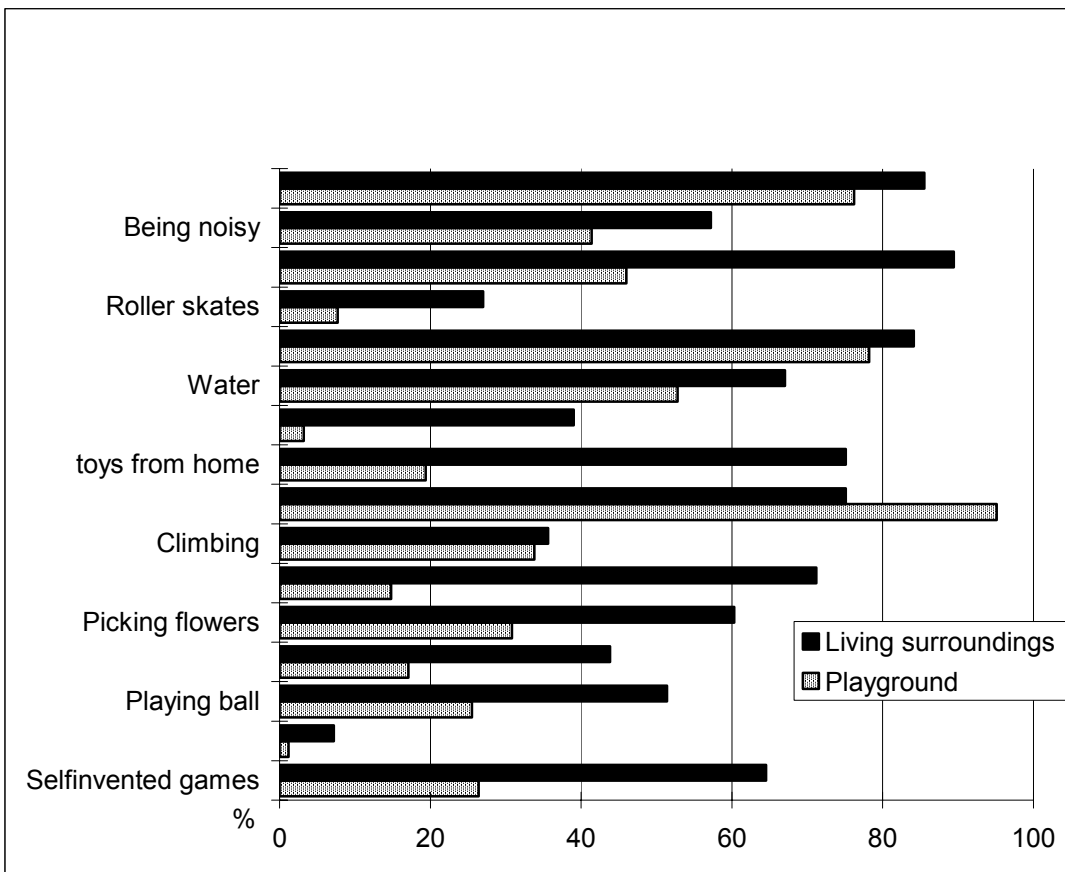


Figure 6. Comparison of games played in living surroundings and on public playgrounds (N=770)

In summary, the following can be said:

- Only one single group of activities is carried out more often on public playgrounds than in the living surroundings. As expected, these are the activities connected to the traditional facilities to be found on a playground: the use of the swing, the slide and the climbing apparatus. Playing in the sandbox in a sense also belongs to this group of activities, even though it is done a little more

often in the living surroundings. The difference, however, remains so little that it has to be assumed that, contrary to the playgrounds, not all of the living surroundings which are suitable for play are equipped with sandboxes. As to climbing trees, the difference is even smaller, which can be put down to the fact that there are hardly any trees on playgrounds as well as in the living surroundings which can or may be climbed on.

- Within another group of activities, there is also only a small difference: The activities in question, such as running around and being noisy, are of a general nature and can be carried out anywhere.

All other activities are observed to a much greater extent in the living surroundings than on public playgrounds. These activities can be divided into two groups which however partly overlap.

- These are activities and games for which one needs *objects* (tricycles, roller skates, sheets and material for building huts, balls, chalk, toys from home, various materials for self-invented games). Taking gadgets and objects for play proves to be troublesome in some cases, especially if the way to the playground is tedious. In addition to this, children often have other ideas on the way to the playground than they had at home. Within the living surroundings, however, they can go back home at any time to get other materials to implement their new ideas.

- For a second group of activities on the playground, there is a lack of *children with whom a child is familiar*. Because visits to public playgrounds are limited in time, the constellation of children is continually changing and a fixed group of children is never formed. Certain games such as the building of huts, all typical ball games, and self-invented games with various materials belong to the family of games which are often only played in company of those children with whom a child is familiar. In many cases, these are roll-playing games.

The lack of both materials and familiarity with other children leads essentially to the fact that especially those games which are important to the development of the children of that age group hardly ever occur on public playgrounds. In suitable living surroundings, however, they often can be observed.

We come to the conclusion that many parents who share unsuitable living surroundings with their children may make significant efforts to compensate for the resulting disadvantages. By frequent visits to public playgrounds, they carry out exactly what planners, educators and politicians have highly recommended for decades. The effect of these efforts is absolutely worthless. Good living surroundings can not be replaced by public playgrounds.

Living Surroundings and Mother-Child Relationship

Originally, the present investigations were not intended to study the connections between the parent-child relationship and the living surroundings. On the contrary, the relatively large group of parents who stated in the written interview (11.8%; N=106) that a five-year old child actually belongs with the parents and not alone outside at first presented a disruptive element. This element contradicted our hypothesis, which claims that the circumstances of the living surroundings, a significant part of which is street traffic, are the actual source of serious problems. We did not take into consideration the close mother-child relationship and the related phenomenon of over-protectiveness.

Only a thorough comparison of parents with a close relationship to their children with those with a loose relationship made this clearer.

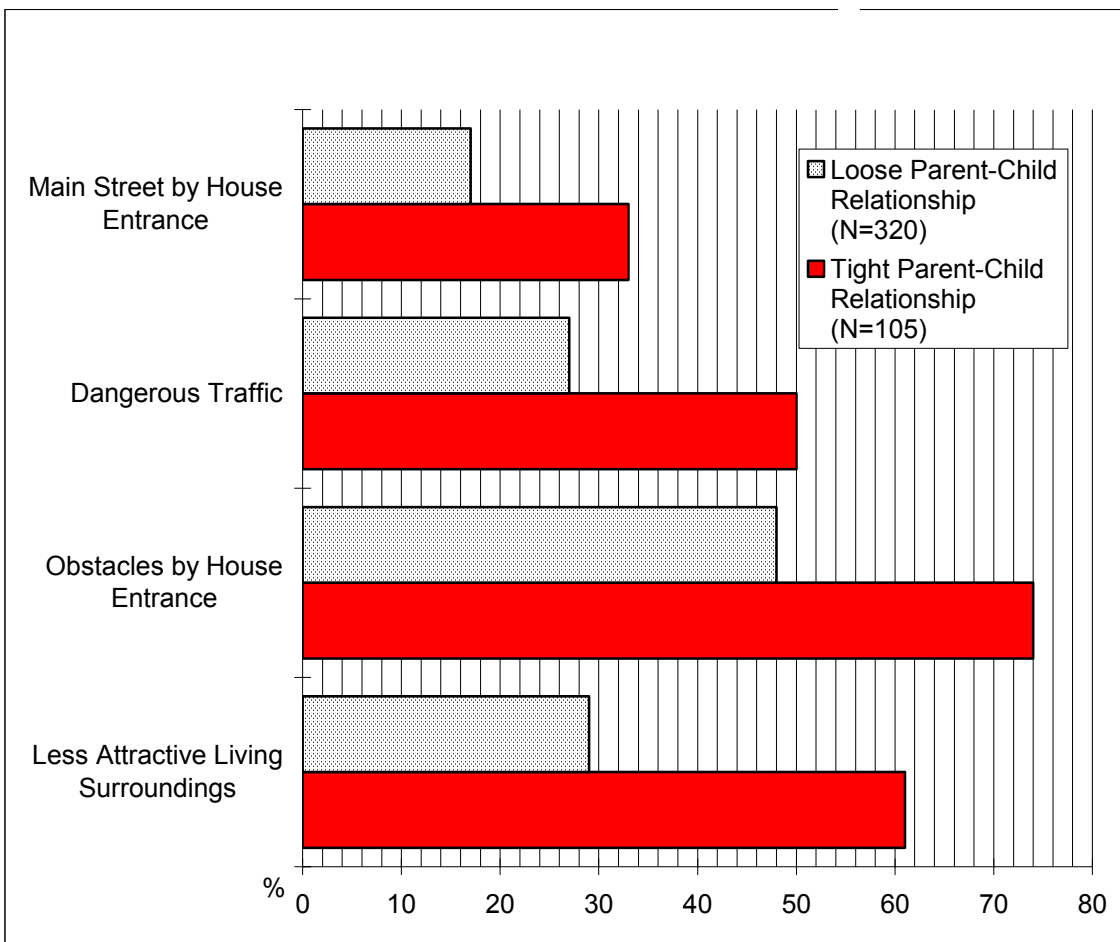


Figure 7. Parent-child relationship and quality of the living surroundings

It is not unreasonable to suggest that a close relationship to the child can hinder unaccompanied play even with good conditions in the living surroundings. When it is discovered, however, that

those parents who have loose relationships to their children have far better living surroundings than parents with tight bonds to their children, as Table 5 shows, then the original assumption must be changed. The new explanation is immediately reasonable and obvious: When parents - one can speak only about the mothers here, because the questionnaires were almost exclusively filled out by them- have been forced for years to accompany their child as soon as they step out of the house and to lead him/her by the hand, it's not surprising that tight bonds develop, and that these original tight bonds between mother and child cannot be loosened. (We have to bear in mind that we only studied families who have lived in the same living surroundings for the past two years.)

This explanation is confirmed in the fact that in living surroundings which are traffic free, only 1% of the parents do not allow their children to play alone outside. In living surroundings where street traffic is light and where drivers are cautious of children, only 6% of the parents do not allow independent outside play. This means that in ideal surroundings parents let their children play outside: Here can also be found far fewer parents with very tight bonds to the child.

The goal of our investigation was to reveal connections between child development and living surroundings. The results have outstripped our hypotheses in that they establish that there is a strong connection between living surroundings, the street traffic to be found there and the Parent-Child relationship.

A Bad Start

We carried out our investigations at a certain point of time. We selected children who were about to enter kindergarten. This happens at the age of five years in Switzerland. Before this time, only very few children are brought to a day-care centre or taken care of by a full-time baby-sitter (probably less than 5%). Most children in general and all the children from our written interviews are at this stage taken care of at home by the mother.

The present results have to be considered as the end results of a longer period of life. On the one hand are children who for many years grew up in living surroundings which allowed free, unaccompanied play and contact with other children and adults. On the other hand, those who were deprived of these. The on-going nature of this situation over many years has to be seen as the decisive cause of the explicitness of our results.

In spite of this clear initial position, marked effects can't necessarily be derived from such established disadvantages. The approaching entry into kindergarten with the resulting separation from the mother and the extended duration of time spent in play groups can change a lot. Certainly, we hasten to add that these changes can be either positive or negative. The

disadvantages to children over many years can't be justified by the insatiable drive of adults to use their living surroundings for their own mobility and to disrespect the vital needs of their children.

A range of observations add further clarity to the fact that acquired disadvantages don't disappear from one day to the next.

- It is highly questionable whether children who previously had no opportunity to move around independently and to prove themselves in a children's group can be integrated without problems into a kindergarten group.

- Missing or deficient motor skills can very well have social and psychological consequences which appear in kindergarten groups . The same deficiencies also lead to significantly increased difficulties for such children to cope in street traffic.

- As we could show, unsuitable living surroundings not only further tight bonds to the mother, but also lead to a considerably longer period of accompaniment to kindergarten. In this way, another important kind of experience is withheld from the children, thus hindering again the development of their independence and the furthering of social contacts (Hüttenmoser 1994).

The present results say that traffic-calming measures in living areas - 30 km.per hour on main streets and walking speed in residential areas - are of decisive importance for the every-day life and the development of children, and ultimately for the development of a society in which people are considerate of each other.

(1) These investigations were carried out also by Dorothee Degen-Zimmermann and partly by Judith Hollenweger. The author of this article acted as project leader.

For the Intensive Investigation as well as the interviews, detailed research reports exist. They are available at Marie Meierhofer-Institut für das Kind, Schulhausstrass 64, 8002 Zürich, Switzerland. The titles of the books mentioned in the text are:

Dorothee Degen-Zimmermann, Judith Hollenweger, Marco Hüttenmoser (Project leader): Zwei Welten, (Two Worlds), Zürich, 1992.

Marco Hüttenmoser, Dorothee Degen-Zimmermann: Lebensräume für Kinder. Empirische Untersuchungen zur Bedeutung des Wohnumfeldes für den Alltag und die Entwicklung der Kinder. (Living Space for Children. Empirical Investigations into the Significance of Living Surroundings with Respect to the Everyday Life and the Development of Children).

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About the Author:

Marco Hüttenmoser, PhD.

Researcher is administrator of his own documentation centre "Child and Environment" in Muri (AG), Switzerland. (Mail: huettenmoser.marco@pop.agri.ch)