

Parents' Behaviors in Traffic that are not Good Role Models for the Children 3

– Hearing survey for toddlers –

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I . Introduction

Three studies were conducted to shine a light on the traffic behavior of parents who were not good examples for toddlers. Specifically, one was a survey on the behaviors of parents and toddlers in actual traffic scenarios using a fixed-point observation method (Mizuno and Tokuda, 2020a), another one was a questionnaire survey for parents (Mizuno and Tokuda, 2020b), and lastly a hearing survey for toddlers. This paper summarizes the results of the third study.

The fixed-point observation survey by Mizuno and Tokuda(2020a), which was conducted in the first study, measured the frequency of the following cases. A case where a parent with a toddler crosses a pedestrian crossing while ignoring the crossing signal, a case where a parent and a child start crossing a road after the crossing signal starts flashing, and a case where a parent is walking with a child while using a smartphone. As a result, many families with toddlers crossed the road while the crossing signal was red or after the crossing light started flashing.

In the second study, based on the questionnaire survey by Mizuno and Tokuda (2020b), many parents encourage toddlers to take appropriate action when they are with them, and even take appropriate actions to set an example for their toddlers. However, the result shows that the frequency of inappropriate traffic behavior increases when such parents are not with their toddlers.

In the third study, we directly interviewed toddlers to clarify what kind of behavior is appropriate or inappropriate in specific traffic situations.

II . Method

(1) Survey Objects

We interviewed 51 toddlers in a private kindergarten A in Tokyo and obtained consent from their parents before conducting the survey. Specifically, we interviewed 14 5-year-old boys (27%), 14 5-year-old girls (27%), 10 6-year-old boys (20%), and 13 6-year-old girls (26%).

(2) Survey Procedures

Individual interviews were conducted on the targeted toddlers using a semi-structuring method (Photo 1). We showed each toddler illustrations depicting a person who is performing an inappropriate traffic behavior. Then, we asked the questions,

‘Who is performing the inappropriate behavior?’ ‘What is the reason?’ ‘How should you act if you were in the same situation?’ and ‘Have you ever done this?’ First, Figure 1 was used as practice. The questions for the illustrations are as follows: (1) "Who is doing something bad in this illustration?", (2) "Why do you think so?", (3) "What do you think that person should do?" (4) "Have you ever done this?" We helped them freely express themselves and recorded what they told us. After the practice, we showed 5 illustrations of traffic scenes and asked additional questions. The survey was conducted in a vacant classroom in kindergarten for 20 to 30 minutes per toddler in October 2018.

(3) Ethical Considerations

This survey was conducted after obtaining the approval of the Ethics Committee of the University of Tsukuba Faculty of Medicine (approval number: 1318).

III. Results and Discussion

(1) Ignoring a Crossing Signal

We showed the toddlers the illustration in Figure 2 and asked them who was displaying bad behavior and why it was wrong. When they pointed out that the boy in the illustration was crossing the road at a red light, we marked it as correct. The results are shown in Table 1. The table shows that more than 90% of the toddlers told us crossing at a red light was inappropriate. Three toddlers answered incorrectly and all of them did not notice the red light and answered, "The boy is not raising his hand when crossing the crosswalk." On the other hand, we asked the toddlers who answered correctly what the boy should have done (Table 2), most of them answered, "The boy should wait at the pedestrian crossing until the crossing light turns green."

We also asked if they had ever crossed at a red light (Table 3). As a result, more than 20% of them answered "Yes." Regarding the rate of children who answered "Yes", it was higher among 5-year-olds than 4-year-olds. Table 4 shows some statements that the toddlers voluntarily made about their parents. According to answers A to E, some parents crossed the road with their children at a red light and gave an excuse why they did so. The children learned that they should not cross at a red light, but since their parents actually crossed at a red light while holding their children's hands, those children might conclude that, "If you see no cars, you can cross the road", or "If an adult is with me, I can cross the road at the red light." In addition, one child actually said in answer F, "If you raise your hand even on red, you can cross the road." The child might have formed this inappropriate idea when receiving ad hoc advice from an adult when they crossed a road on a red light.

(2) Crossing on a Flashing Light

We showed the illustration in Figure 3 and used a hand blinking gesture and asked if they had ever seen a crossing light flashing like in the picture to help the children

to pay attention to the crossing light flashing in the picture. Then, we asked who was behaving wrongly and why it was wrong. We marked it correct when the children pointed out that the boy in the illustration was about to run across at a flashing cross light. The result is shown in Table 5.



Photo 1. Interview of toddlers

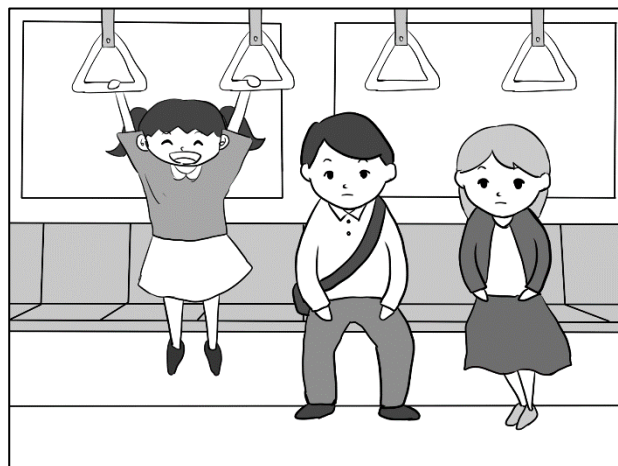


Figure 1. Illustrations for the practice

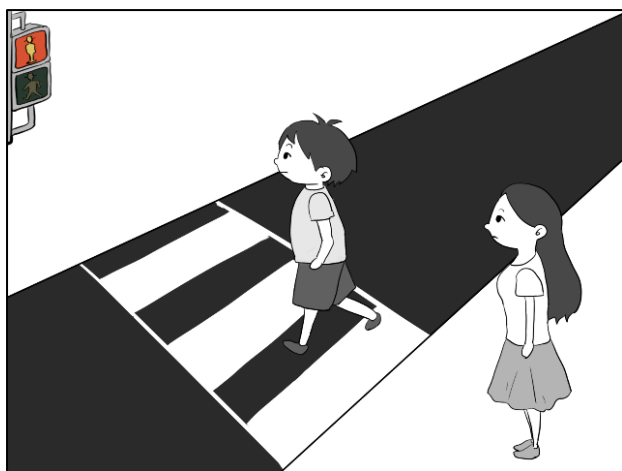


Figure 2. A boy crossing a road at a red light signal

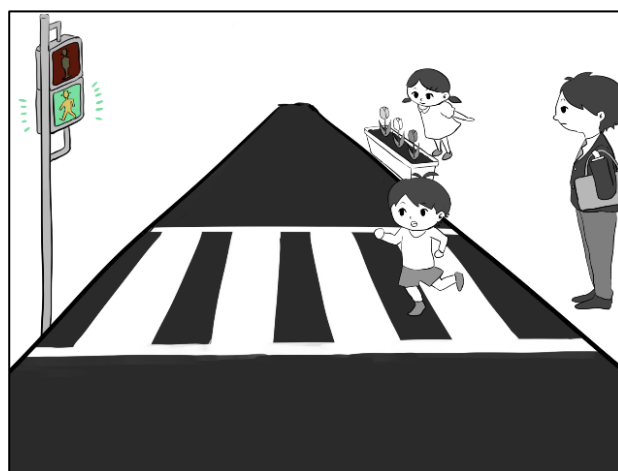


Figure 3. Illustration of a boy trying to cross at a flashing light

Table 1. Who was behaving wrongly in Figure 2?

	Total (N=51)		4-year-olds (n=28)		5-year-olds (n=23)	
	%	n	%	n	%	n
Correct	94%	48	100%	28	87%	20
Incorrect	6%	3	0	0	13%	3

Table 2. What should the boy in Figure 2 have done?

	Total (N=48)		4-year-olds (n=28)		5-year-olds (n=20)	
	%	n	%	n	%	n
Correct	98%	47	100%	28	95%	19
Incorrect	2%	1	0	0	5%	1

Table 3. Asking if you have crossed the road at a red light

	Total (N=48)		4-year-olds (n=28)		5-year-olds (n=20)	
Yes	21%	10	14%	4	30%	6
No	79%	38	86%	24	70%	14

Table 4. Statements from children about crossing at a red light

A	Mom said that we can cross the road at the red light if no cars are coming.
B	I crossed the road at a red light with my mom. A car came, but we were OK because the car stopped for us.
C	When I'm with my mom, she says, "hurry up" and we cross the road even though the traffic light is red.
D	Dad said it's OK, so we crossed the road at the red light.
E	We crossed the road on a non-crosswalk because the crossing light was red.
F	If we raise our hand, we can cross the road even if the crossing light is red. (A child who gave an incorrect answer.)

Table 5. Who was behaving wrongly in Figure 3?

	Total (N=51)		4-year-olds (n=28)		5-year-olds (n=23)	
	%	n	%	n	%	n
Correct	80%	41	75%	21	87%	20
Incorrect	20%	10	25%	7	13%	3

According to Table 5, 80% of the children answered this question correctly, and 5-year-old children were more likely to answer correctly than 4-year-old children. The correct answer rate for this question was lower than the question on crossing at a red light. Regarding the children who answered incorrectly (Table 6), as shown in answer G, one child answered that the male high school boy in the illustration was wrong because he did not try to cross the road when the light was flashing. This child told us that he was told by his parent to run to cross the road when a cross light flashes. Such incorrect understanding came from his parent's behavior and words. On the other hand, when we asked the children who correctly answered what the boy in the illustration

should have done (Table 7), most of the children answered, "He should wait without crossing," or "He has to return, and wait until the light turns green." They answered not to cross the road at the flashing light or return to the starting point of the crosswalk and wait until the light turns green.

We asked if the children had ever crossed a crosswalk when the cross light was flashing (Table 8), and half of them said yes. Table 9 shows some of the remarks spontaneously given by them about crossing the road at a flashing cross light. As in answer L, many of them were told to run to cross when the light was flashing by their parents. There were also many of them who saw their parents and older siblings trying to cross the road while a cross light was flashing, as in answers M, N, O, and P.

Table 6. Incorrect answers to the question on the illustration of a boy trying to cross at a flashing light

G	Even though the light is flashing, the boy does not try to cross the road quickly.
H	The child is crossing the crosswalk alone.
I	The girl is loitering on the way home.
J	The boy is not holding hands with an adult.
K	The boy is running to cross the crosswalk.

Table 7. What should the boy trying to cross at the flashing light have done?

	Total (N=41)		4-year-olds (n=21)		5-year-olds (n=20)	
	%	n	%	n	%	n
Correct	98%	40	95%	20	100%	20
Incorrect	2%	1	5%	1	0	0

Table 8. Asking if you have ever crossed the road at a red light

	Total (N=41)		4-year-olds (n=21)		5-year-olds (n=20)	
	%	n	%	n	%	n
Yes	98%	40	95%	20	100%	20
No	2%	1	5%	1	0	0

Table 9. Statements from children about crossing at a flashing light

L	Mom told me that if the light is flashing, we should run to cross.
M	If the light is flashing, Mom dashes to cross the road.
N	Mom walks to cross the road even if the crossing light is flashing.
O	My sister (2nd grade of elementary school) crosses even if the light is flashing.
P	I don't do it, but my older brother (3rd grade of elementary school) crosses even if the light is flashing.

(3) Walking While Using a Smart Phone or Walking on the Curb

We showed the illustration in Figure 4 and asked who was behaving wrongly and why you think so. This illustration depicts two inappropriate actions, a person walking and talking on a smartphone and a girl walking on a curb. After the children answered, we asked a further question, "Do you have any other thoughts?" Table 10 shows the percentage of correct answers. According to Table 10, the children who correctly pointed out both the person using the smartphone and the girl walking on the curb were 55% in total. The children who pointed out only the girl walking on the curb were 31%. So, it was confirmed that more than 80% could recognize that the behavior of the girl walking on the curb was inappropriate. Probably because adults usually inform their children of the danger of walking on a curb. On the other hand, the children who only pointed out walking and using the smartphone were 8%. That means 63% of them could recognize that walking while using a smartphone is inappropriate. Less children recognized that walking while using a smartphone is inappropriate behavior than walking on a curb.

When we asked the children who answered correctly about the person walking while using a smartphone, what the person should have been doing (Table 11), most of them correctly answered, "The person should not have been using a smartphone", "The person should have stopped to use the smartphone", or "The person should have moved to the edge of the road and then used the smartphone." In addition, some of them incorrectly answered, "When using a smartphone, he should be careful to look in front." When we asked if the children themselves experience with walking had while using a smartphone (Table 12), most of them said "No". However, the spontaneous remarks from them (Table 13) indicated that their parents and siblings use smartphones while they are walking. In particular, Answer R says, "Dad can look at his smartphone while running. It's amazing", and Answer W says, "Dad can play Pokémon GO while driving his car". They don't think that using a smartphone while walking is inappropriate, but rather they seem proud of their fathers for being able to operate smartphones while running or driving. Parents know that walking while using a smartphone is inappropriate, but if they show their children contradictory conduct, they will decrease the children's normative consciousness. Also, for children who do not think that walking while using a smartphone is inappropriate, it is likely that they will admire such conduct, and when they can, they will imitate the bad example.

We asked them what the girl on the curb should have done (Table 14). Most children said, "She should have walked on the sidewalk", or "She shouldn't walk on the curb." Some gave incorrect answers, such as "She should have held hands with an adult when she walked on the curb." We also asked if they have ever walked on the curb (Table 15), 40% of them answered "Yes".

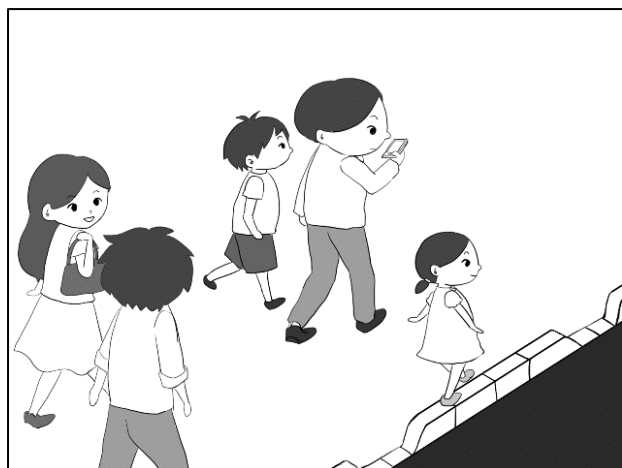


Figure 4. Illustration of a man using a smartphone

Table 10. Who were behaving wrongly in Figure 4?

	Total (N=51)		4-year-olds (n=28)		5-year-olds (n=23)	
	%	n	%	n	%	n
Both correct	55%	28	46%	13	66%	15
Only curb	31%	16	43%	12	17%	4
Only smartphone	8%	4	4%	1	13%	3
Incorrect	6%	3	7%	2	4%	1

Table 11. What should the man use a smartphone while walking has done?

	Total (N=32)		4-year-olds (n=14)		5-year-olds (n=18)	
	%	n	%	n	%	n
Should not have used the smartphone.	57%	18	58%	8	56%	10
Should have stopped using the smartphone.	31%	10	35%	5	28%	5
Should have moved to the roadside to use the smartphone.	6%	2	0	0	11%	2
Couldn't give a correct answer.	6%	2	7%	1	5%	1

Table 12. Asking if you had experience with walking while using a smartphone

	Total (N=32)		4-year-olds (n=14)		5-year-olds (n=18)	
	%	n	%	n	%	n
Yes	6%	2	7%	1	6%	1
No	94%	30	93%	13	94%	17

Table 13. Statements from children about using a smartphone while walking

Q	Dad sits on the bench when using a smartphone.
R	Dad can use a smartphone while running. That's amazing.
S	Dad uses a smartphone while walking.
T	I warn dad because my dad uses smartphones while walking. But he doesn't listen to me.
U	Both dad and mom use a smartphone while walking.
V	My brother uses an iPad while walking.
W	Dad can play Pokémon GO while driving a car.
X	When I walked while playing Pokémon GO, Dad had to look around for me.

Table 14. What should the girl walking on the curb have done?

	Total (N=32)		4-year-olds (n=14)		5-year-olds (n=18)	
	%	n	%	n	%	n
Correct	91%	40	96%	24	84%	16
Incorrect	2%	1	4%	1	0	0
No answer	7%	3	0	0	16%	3

Table 15. Asking if you have walked on the curb

	Total (N=44)		4-year-olds (n=25)		5-year-olds (n=19)	
	%	n	%	n	%	n
Yes	41%	18	44%	11	37%	7
No	55%	24	56%	14	53%	10
No answer	4%	2	0	0	10%	2

(4) Running-up an Escalator

We showed an illustration of a boy running up an escalator in Figure 5 and asked who was behaving badly and why you think so (Table 16). In this illustration, the correct answer was the boy running up the escalator.

According to Table 16, more than 70% of 4- and 5-year-old children correctly answered. Many incorrect answers stated that the boy running on the right side of the escalator isn't holding the handrail. Their parents or guardians may always tell them to hold the handrail each time. Some children answered incorrectly, "There is no one showing bad behavior in the illustration because my mom told me that we can run when we are in a hurry." It seemed that the child who incorrectly answered, also felt uncomfortable about the boy running up the right side of the escalator, but his mother had convinced him by telling him that running up an escalator was not necessarily bad. When we asked why they should not run-up an escalator (Table 17), the most common

answer among both 4- and 5-year-old children was, "Because there are rules that you must not". That shows that many children did not know the reason why they should not do it and we were convinced that many children simply remember it as a rule to be followed. At an early stage of childhood, it is difficult for them to empathize with others, and unfortunately less than 20% of the children answered that "Because if I run-up, I might bump into a person".

When we asked what the boy should have done on the escalator (Table 18), 80% of the children answered, "He should have stopped and rode the escalator". 6 children (15%) answered, "He should have walked without running." Those children thought that running on an escalator is not good, but walking is OK.

When we asked if they have ever run-up an escalator (Table 19), about 30% of them answered "Yes". Table 20 summarizes words spontaneously uttered by children about running up escalators. According to Table 20, we concluded that some parents told them that they could walk when they were in a hurry. On the other hand, some children remembered that some DVDs for an educational program for young children included instructions that they should not walk on escalators.

V. Summary

From this fixed-point observation survey, many families with toddlers ignored crossing lights or started to cross even after the cross lights began flashing. While we were observing the toddlers, we found some parents warned their children if they tried to cross at a red light, however, more than few parents led their children to cross at a

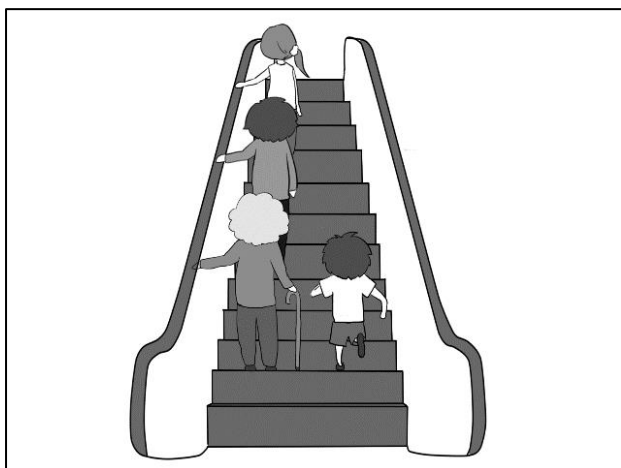


Figure 5. Illustration of a boy running up an escalator

Table 16. Who was behaving wrongly in Figure 5?

	Total (N=51)		4-year-olds (n=28)		5-year-olds (n=23)	
	%	n	%	n	%	n
Correct	76%	39	75%	21	78%	18
Incorrect	24%	12	25%	7	22%	5

Table 17. Reasons for not running up escalators

	Total (N=39)		4-year-olds (n=21)		5-year-olds (n=18)	
	%	n	%	n	%	n
Because there is a rule not to do so.	44%	17	38%	8	50%	9
Because I will fall.	33%	13	33%	7	33%	6
Because I will bump into another person.	18%	7	19%	4	17%	3
Other answers	5%	2	10%	2	0	0

Table 18. What should the boy running up the escalator have done?

	Total (N=39)		4-year-olds (n=21)		5-year-olds (n=18)	
	%	n	%	n	%	n
He should have stopped and rode the escalator	80%	31	76%	16	83%	15
He should have walked without running	15%	6	19%	4	11%	2
No answer	5%	2	5%	1	6%	1

Table 19. Asking if you have run up the escalator

	Total (N=39)		4-year-olds (n=21)		5-year-olds (n=18)	
	%	n	%	n	%	n
Yes	31%	12	29%	6	33%	6
No	67%	26	71%	15	61%	11
No answer	2%	1	0	0	6%	1

Table 20. Statements from children about running up escalators

Y	I ran when I was in a hurry. Dad told me, "People who are in a hurry pass on the right, and when they are not in a hurry, stand on the left."
Z	Mom told me, "People who are in a hurry walk fast on the right side, and those who are not in a hurry stand on the left side."
a	Dad and mom told me, " You can walk or run on the right. "
b	Mom told me, "Don't run, but if you're in a hurry, walk on the right."
c	Mom told me, "People who are in a hurry walk or run on the right."
d	Shimajiro's DVD said that we should not walk on the escalator.

red light. Some parents use smartphones while walking with their children. In some cases, parents walk with their children while playing Pokémon GO together.

According to the questionnaire for parents who have toddlers, parents encouraged their children to take appropriate actions when they were with the children, and they also tried to show a good example. However, we confirmed that when they are not with their children, they more frequently take inappropriate action.

According to the interviews with toddlers conducted in this study, many of them recognize that it is inappropriate to ignore a red crossing light or to cross after the light begins to flash. However, some children told us that they saw their parents trying to cross at a red light or crossed after the light began flashing. In addition, we not only heard from some of the children that their parents walk while using smartphones or run-up escalators, but also some of them seemed proud of their parents for taking such actions. In this way, children see the inappropriate behavior of their parents, and some feel uncomfortable, while others start thinking that adults can break the rules.

After comprehensively considering these three surveys, we concluded that parents observe traffic rules and manners in front of their children to some extent. However, some children confessed that their parents do not observe the rules and manners, and such conduct was actually observed by them. Maybe only a small number of parents do not observe traffic rules and manners, or just broke them by chance. However, we believe that even if it's a small percentage, some parents are definitely exhibiting improper traffic behavior in front of their children, and such children clearly remember it.

If children see their parents, whom they look up to, take inappropriate actions, the children will definitely imitate their parents as examples to be followed. Most of the children had been taught some traffic rules and manners at home, kindergarten, and nursery schools, so they had the knowledge that crossing at a red light was wrong. However, when they see adults break the traffic rules, it is easy to believe that those children will grow up into adults who do not follow the traffic rules and manners even if taught to.

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Parents' Behaviors in Traffic that are not Good Role Models for the Children 3

– Hearing survey for toddlers –

MIZUNO Tomomi and TOKUDA Katsumi

The purpose of this paper was to clarify what kind of behavior is appropriate or inappropriate in specific traffic situations through toddlers' interview.

We interviewed 51 toddlers. Individual interviews were conducted on the targeted toddlers using a semi-structuring method. We showed each toddler illustrations depicting a person who is performing an inappropriate traffic behavior. Then, we asked the questions, 'Who is performing the inappropriate behavior?' 'What is the reason?' 'How should you act if you were in the same situation?' and 'Have you ever done this?'

In this study, many of children recognize that it is inappropriate to ignore a red crossing light or to cross after the light begins to flash. However, some children told us that they saw their parents trying to cross at a red light or crossed after the light began flashing. In addition, we not only heard from some of the children that their parents walk while using smartphones or run-up escalators, but also some of them seemed proud of their parents for taking such actions. In this way, children see the inappropriate behavior of their parents, and some feel uncomfortable, while others start thinking that adults can break the rules.